THE 2000 MICHIGAN DRUG AND ALCOHOL POPULATION SURVEY (MDAPS)

Main Findings

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Introduction

On September 29, 1999, the Michigan Department of Community Health, Mental Health and Substance Abuse Services (MDCH, MHSAS), was awarded a three-year grant by the Center for Substance Abuse Treatment (CSAT) of the Substance Abuse and Mental Health Services Administration (SAMHSA) to conduct a family of substance abuse treatment needs assessment studies. This grant was the third award received by MDCH from CSAT since 1992. Reports are available (on a limited basis) from MDCH on the studies completed in the first, as well as the second rounds of the treatment needs assessment studies. All completed reports are available thru the State of Michigan Library system. An extension to enable completion of the studies during a fourth year was approved by SAMHSA in the summer of 2002, with no increase in funding.

The studies varied in methodology and targeted population with objectives specific to each of the studies; however, all of the studies have the same overall goal; namely, to estimate the prevalence of alcohol and illicit drug use, abuse, dependency, need and demand for substance abuse treatment services in the Michigan population. This information is helpful for determining possible gaps in treatment services, for resource allocation, and for services planning purposes.

The focus of this report is the presentation of population estimates from one of the Michigan family of substance abuse needs assessment studies, the 2000 Michigan Drug and Alcohol Population Survey (MDAPS). (See Glossary in the Appendix for definition of prevalence and other terms used in this report.) Similar to an adult household survey conducted in 1995, the population estimates presented herein include estimates of the prevalence of alcohol and other drug use, lifetime diagnoses of substance dependency and abuse, and met and unmet demand for treatment services for the total Michigan adult population and for all seven sub state planning regions. As a general adult population survey, the MDAPS provides prevalence estimates, which may be used as a basis for comparison with national estimates and with other Michigan needs assessment study results. This is especially noteworthy in light of the fact that, prior to the 1995 MDAPS, Michigan had not conducted a statewide household substance abuse survey since 1974.

Purpose of the Study

The three major objectives of the 2000 MDAPS were:

- To conduct a household population survey specifically designed to provide the population prevalence data required to assess the need and demand for substance abuse treatment services in the general adult population in the State of Michigan;

- To produce adult population prevalence estimates of use, dependency and abuse for alcohol, marijuana, hallucinogens, stimulants, cocaine or crack, heroin, other opiates, sedatives and inhalants for the State of Michigan, for seven study regions, and for race, sex and age subgroups; for submission as part of composite estimates of the need for substance abuse treatment services annually in the Substance Abuse Prevention and Treatment Block Grant application; and,

- To produce a core data set of estimated alcohol and other drug use, dependency and abuse that can be used as a baseline and benchmark for future comparisons within Michigan's sub state study regions, and to compare with other states and other studies.

Description of the Study

The MDAPS is a stratified multistage probability sample survey of Michigan residents age 18 years and older living in households with telephones. The targeted adult population was stratified into seven strata to correspond to the MDCH, substance abuse study regions. These study regions are comprised of groups of counties presented in Table 1.

Sampling was accomplished within each region using the truncated Casady-Lepkowski (1) method of telephone sampling. Sampling weights were subsequently calculated such that each population subgroup was proportional to its size in the overall population of Michigan in all analyses. Selected demographic characteristics of the sample before and after weighting are shown in Table 2. The weighted sample reflects the distribution of the Michigan adult population in terms of gender, race/ethnicity, age and region. A detailed description of the sample design, weighting of the sample data, sampling error and response rates may be found in Appendix A.

Data collection for the survey was conducted from November 2000 to August 2001 by trained interviewers of the Gallup Organization utilizing a Computer-Assisted Telephone Interview (CATI) system. Up to seven calls were made to a household to identify the eligible respondent and up to 10 calls to complete the interview with the eligible respondent. A total of 4,698 respondents were interviewed from a structured interview developed by the North Charles Research and Planning Group at Harvard University (2). The interview embedded a series of questions (referred to as DIS-SAM questions), which allowed for making diagnostic estimates consistent with DSM-IV (the national standard diagnostic classification system used for mental health and substance abuse services).

Information was collected with the expressed permission of the respondent and the assurance that the respondent’s answers would remain confidential. All interviewers and other employees of the Gallup Organization involved in the project signed a statement stating that they would maintain the confidentiality of all survey data and no information that could identify a particular respondent was furnished to MDCH in the final data set. The Human Subjects Review Committee of MDCH reviewed the study protocol prior to the start of data collection according to federal guidelines for the use of human subjects in research, and determined that the rights of human subjects in the study were appropriately protected.

Respondents were interviewed about their alcohol and other drug use, including frequency, recency and amount, consequences of use, treatment experiences, and perceived need for treatment. Information was obtained about the following substances: alcohol, marijuana/hashish, hallucinogens, cocaine (including crack), heroin, opiates other than heroin, stimulants, sedatives, and inhalants.

Respondents who reported a specified level of substance use and common consequences of excessive use were asked a series of diagnostic questions for five selected substances: alcohol, marijuana, hallucinogens, cocaine/crack, heroin, and other opiates. These "qualifying" questions were meant to achieve survey efficiencies by skipping the diagnostic items when interviewing persons unlikely to qualify for a diagnosis. The qualifying questions also help avoid alienating subjects who drank alcohol or used illicit drugs very little or not at all. Interviews with subjects who skip all of the diagnostic questions most often complete the interview in less than ten minutes; whereas, those who qualify for all of the substances typically require up to an hour to complete the interview.

A diagnosis of lifetime substance dependence or abuse was based on responses to a diagnostic interview, based on criteria outlined in the Diagnostic Statistical Manual, fourth edition (DSM-IV) (3). According to DSM-IV, for psychoactive dependence disorders, there are seven relevant symptom (or problem) categories. For a diagnosis of substance dependence, a person has to manifest three or more of the following seven criteria occurring at any time in the same 12-month period:

- Marked tolerance: need for markedly increased amounts of the substance in order to achieve intoxication or desired effect, or markedly diminished effect with continued use of the same amount;

- Characteristic withdrawal syndrome for the substance, or the same or a closely-related substance is taken to relieve or avoid withdrawal symptoms;

- Substance often taken in larger amounts or for a longer period than the person intended;

- Persistent desire or one or more unsuccessful efforts to cut down or control use;

- A great deal of time spent in activities necessary to get the substance (e.g., theft), taking the substance (e.g., drinking all day or night), or recovering from its effects;

- Important social, occupational, or recreational activities given up or reduced because of substance use; and,

- Continued substance use despite knowledge of having a persistent or recurrent social, psychological, or physical problem that is caused or exacerbated by the use of the substance (e.g., keeps using heroin despite family arguments about it, cocaine-induced depression, or having an ulcer made worse by drinking).

According to DSM-IV, for psychoactive abuse disorders, there are four relevant symptom (or problem) categories. To receive a diagnosis of substance abuse, the person must meet one or more of the of the following four criteria within a 12-month period:

- Recurrent substance use resulting in failure to fulfill major role obligations at work, school, or home;

- Recurrent substance use in situations in which it is physically hazardous;

- Recurrent substance-related legal problems; and,

- Continued substance use despite having persistent or recurrent social or interpersonal problems caused by or exacerbated by the effects of the substance (e.g., fights).

Prevalence estimates of lifetime diagnoses of dependence or abuse were calculated for alcohol and four other drugs: marijuana/hashish, hallucinogens, cocaine (including crack), heroin, and other opiates. Determination of a respondent's need for treatment was operationalized as having a DSM-IV lifetime diagnosis of dependence or abuse of one or more of these substances.

Results

Findings in this report are representative of all Michigan adults, both statewide and within seven study regions. This is possible due to the sampling design, which allows for generalization from the sample to the larger population of Michigan adults.

Results of the MDAPS 2000 survey are presented in four sections:

- Alcohol and Other Drug Use;
- Dependence and Abuse;
- Met Demand for Treatment Services; and,
- Unmet Demand for Treatment Service.

Each of these sections will present estimates for the total Michigan population and for each of the seven MDCH substance abuse sub state study regions. ***Before reading these sections, it is advisable that the reader read the discussion of statistical significance in the "Format and Organization of the Population Estimates Tables" section.***

Alcohol and Other Drug Use

Table 3 presents the estimated proportion and number of Michigan adults (age 18 and over) who used alcohol and other drugs in their lifetime, during the past 12 months and 30 days. Tables 4-10 present the same information for each of the seven study regions. Lifetime estimates indicate that a substance was used at least once in the respondent's lifetime and is a measure of exposure. Past 12-month estimates use within the last 12-month period and is a measure of both active and intermittent use. Past 30-days use indicates use in the previous month; this is considered to be active use. These categories are cumulative; those who reported use in the past month are also included in the past 12 months and ever used categories.

It should be noted that measures of use only denote recency of use with each time frame, rather than information about frequency (how often), amount (how much), or intensity of use. Use

estimates are provided for alcohol, marijuana, hallucinogens, stimulants, cocaine/crack, heroin, other opiates, sedatives, and inhalants. Table 11 presents any illicit drug use only; alcohol is excluded.

Alcohol

Alcohol is the most widely used substance by the general Michigan adult population with 94.6 percent having had a drink at least once in their lives. Seven in ten (70 percent) Michigan adults used alcohol in the past 12 months and 55.5 percent (4.1 million adults) used alcohol in the past month.

Estimates for the sub state planning regions are generally at the same level as the total Michigan population with the exception of residents of the City of Detroit, who reported substantially less alcohol use than the statewide population for lifetime use (94.6 percent versus 88.9 percent), past 12 months (70.0 percent versus 54.6 percent), and past 30 days (55.5 percent versus 40.9 percent). Detroit adults also reported substantially less alcohol lifetime use, use during the past 12 months, and use during the past 30 days compared with all other study regions. Figure 1 presents lifetime, past 12 month, and 30-day use for the adult Michigan population and study regions 1-7.

Marijuana

Marijuana is the most commonly used illicit drug among Michigan adults with more than three in ten (31.7 percent, or 2,344,000 adults) using it at least once in their lives. Seven percent (516,000 adults) used marijuana in the last 12 months, and 3.8 percent (275,000 adults) used marijuana in the past month.

The lowest levels of reported marijuana use were found in the Upper Peninsula region for lifetime use (27.8 percent), past 12 months (4.2 percent), and past 30 days (1.9 percent) compared with the six other study regions.

Adults in the western region reported the largest proportion of lifetime marijuana use (33.0 percent) and Detroit adults reported the largest proportions of use in the past 12 months (8.9 percent) and use in the past 30 days (5.6 percent).

Hallucinogens

About 5.9 percent of the general Michigan population (about 435,000 adults) report having used hallucinogens (e.g., LSD, PCP, Ecstasy) at least once in their lifetime. Slightly less than 1 percent of adults (56,000 persons) used a hallucinogenic drug with in the past 12 months and 0.2 percent (14,000 adults) used in the past 30 days.

Adults in the northern region have the largest proportion of reported lifetime use (8.5 percent) compared to the other six study regions and Detroit adults have the smallest proportions of lifetime use (3.2 percent). The number of Michigan adults who reported using hallucinogens during the past 12 months or 30 days is very small when distributed across the seven study regions.

Stimulants

Nearly 5 percent of the general Michigan adult population (over 356,000 persons) has used illicit (or non-medically sanctioned), stimulants at least once during their lifetime. Less than one-half of 1 percent of adults (30,000 persons) used stimulants within the past 12 months with 0.1 percent (10,000 persons) using them in the past 30 days.

Eastern region adults reported the highest level of lifetime stimulant use (6.1 percent) compared to the other study regions and the total Michigan adult population. Detroit adults reported notably lower levels of lifetime stimulant use (2.8 percent) compared with the total Michigan adult population. The City of Detroit also had the lowest level of reported lifetime stimulant use among all seven-study regions.

Western region adults reported a higher level of stimulant use in the past 12 months (0.9 percent) than any of the other study regions and the total Michigan adult population. No residents of the City of Detroit reported use of stimulants in the past 12 months.

Cocaine/Crack

About 7.3 percent of the general Michigan adult population (or nearly 537,000 people) have used cocaine or crack in their lifetime. One-half of 1 percent (34,000 adults) used it in the past 12 months and 0.1 percent (7,000 adults) used it in the past 30 days.

Detroit adults reported the lowest levels of lifetime use (4.8 percent) and the Upper Peninsula and northern region adults reported the lowest levels of use in the past 12 months, compared to the statewide population and the other study regions (0.2 percent each). Southeastern region adults reported the highest level of lifetime cocaine/crack use (8.1 percent) compared to the statewide population and the other study regions, and central region adults reported the highest levels of use in the past 12 months (0.8 percent) compared to the general population and the other study regions.

Heroin

The survey found that about 0.6 percent of the general Michigan population (or about 46,000 adults) have ever used heroin. Only very small proportions reported using heroin in the past 12 months or past 30 days (2,000 and 1,000 adults respectively).

Detroit adults reported the highest levels of heroin lifetime heroin use (2.7 percent) compared to the other study regions and the State of Michigan overall. All reported users of heroin in the State of Michigan during the past 12 months and past 30 days are reportedly in the City of Detroit, based on survey findings. The proportion of adults reporting lifetime heroin use in the southeastern region is notably lower than in all other study regions and the total Michigan adult population (0.2 percent).

Under reporting of substance use (especially for heroin, and most likely for cocaine/crack which are highly stigmatized drugs) is possible in surveys such as the MDAPS, and users may not

reside in households with telephones (refer to Limitations section of this report). A report by Calkins and Aktan (4) estimated over 70,000 heroin users in the state of Michigan in 1992 by the capture-recapture and indicator correlation method (which does not rely solely on self-report), while the MDAPS conducted in 1995 found 3,000 heroin users in the past 12 months and only 700 users in the past 30 days.

Other Opiates

Slightly more than 2 percent of the general Michigan adult population reported non-medical use of opiates other than heroin (e.g., Darvon, Demerol, Dilaudid, Codeine, Morphine or Methadone) in their lifetime (166,000 adults). Only 0.2 percent of adults (18,000 persons) used other opiates in the past 12 months and only 0.1 percent (5,000 persons) used other opiates in the past 30 days.

Detroit adults reported the highest rates of lifetime use of opiates other than heroin (3.9 percent) compared to the total Michigan adult population and the other study regions. The proportion of adults reporting lifetime use of opiates other than heroin in the southeastern and eastern regions (1.5 percent each) are notably lower than in all other study regions and the total Michigan adult population.

Sedatives

Nearly 3 percent of the general population (218,000 adults) reported non-medical use of sedatives (e.g., tranquilizers or barbituates) in their lifetime. Less than 1 percent of adults (61,000 persons) used in the past 12 months and 0.2 percent (15,000 persons) in the past 30 days.

Detroit adults reported the lowest rates of lifetime use of sedatives (1.6 percent) and use in the past 12 months (0.2 percent) compared to the total Michigan adult population and the other study regions. The southeast region had the highest reported level of lifetime sedative use (3.4 percent) and the western region had the highest reported level of use in the past 12 months (1.2 percent).

Inhalants

Slightly more than 1 percent (87,000 Michigan adults) used inhalants (e.g., aerosols, glue, paint solvents) at least once in their lifetime. Only very small proportions reported using inhalants in the past 12 months (13,000 persons) or past 30 days (6,000 persons).

Eastern region adults have the highest level of reported lifetime inhalant use (1.5 percent) compared to the total Michigan population and other study regions and the central region had the lowest level of reported lifetime use (0.6 percent).

Any Illicit Drug

Figure 2 presents lifetime, past 12 months, and 30-day illicit drug use by substance for the total Michigan adult population. Table 11 presents estimates of any illicit drug use for the total Michigan adult population and the seven study regions. These estimates of drug use include any illicit drug use or non-medical use of the following substances in the three time periods:

marijuana, hallucinogens, stimulants, cocaine/crack, heroin, other opiates, sedatives, and inhalants.

About 32.7 percent (2,417,000 Michigan adults) have ever used an illicit drug. About 7.7 percent of adults (566,000 persons) have used at least one illicit substance in the past 12 months and 4.1 percent (300,000 adults) reported using one or more illicit substance in the past 30 days.

Upper Peninsula adults reported notably less illicit drug use than the statewide general population for lifetime use (27.8 percent), use in the past 12 months (4.3 percent), and use in the past 30 days (2.0 percent). The Upper Peninsula region also reports less use for lifetime use, use in the past 12 months, and use in the past 30 days compared to any of the other study regions. Western region adults have the highest reported level of lifetime use of illicit drugs (34.0 percent) and Detroit adults report the largest proportions of adults who used illicit drugs in the past 12 months (9.1 percent) and 30 days (5.9 percent), compared to the overall Michigan population and all other study regions.

Summary of Substance Use

Alcohol is the most widely used substance with nearly every Michigan adult reporting using it at least once in their life and seven in 10 adults using it in the past 30 days. Estimates for the sub state study regions are generally at the same level as the total Michigan population with the exception of adults residing in the City of Detroit who had notably less alcohol use than the general population for lifetime use (88.9 percent versus 94.6 percent), past 18 months (54.6 percent versus 70.0 percent) and past 30 days (40.9 percent versus 55.5 percent). Detroit adults also reported distinctly less alcohol lifetime use, use in the past 12 months, and use in the past 30 days compared with all other regions.

Marijuana is the most widely used illicit substance with nearly one-third of Michigan adults reporting ever using it. The lowest levels of reported marijuana use were found in the Upper Peninsula region for lifetime use, past 12 months, and past 30 days compared with the six other study regions. Western region adults reported the largest proportion of lifetime marijuana use and Detroit adults reported the largest proportions of use in the past 12 months and use in the past 30 days.

Cocaine and crack had the third highest level of lifetime use by the total Michigan adult population, although that finding was not consistent across the study regions. Three of the seven study regions had higher levels of lifetime hallucinogen use than of lifetime cocaine or crack use.

A notable proportion of Michigan adults - nearly one-third (2,417,000 persons) - report having used an illicit drug other than alcohol at least once in their lifetime, though less than one in 10 (566,000 persons) have used an illicit drug in the past 12 months, and less than one in 20 (300,000 persons) used an illicit drug in the past 30 days.

Dependence and Abuse

The previous discussion focused on use of a series of substances during three time periods: ever used, past 12 months, and past 30 days. This section will focus on the *consequences* of use,

which indicates a need for substance abuse treatment. Consequences of use to the individual person may be physical, social, or psychological. These consequences are specified as symptom criteria of the DSM-IV. A diagnosis of substance dependence was made if the adult interviewed met the symptom criteria for three or more symptom items and the duration criteria for two or more for a specific substance. A diagnosis of substance abuse was made if the respondent did not meet the criteria for substance dependence for that substance *and* met the symptom criteria for one or more symptom items and duration criteria for one or more duration items.

The determination of a person's need for treatment was operationalized as having a DSM-IV lifetime diagnosis of dependence or abuse with one or more of the following substances: alcohol, marijuana, hallucinogens, cocaine/crack, heroin, and opiates other than heroin. It should be noted that although the diagnoses estimates were lifetime rather than past year diagnoses, the modified DIS-SAM diagnostic questions were asked only of persons who acknowledged a specified level of substance use in the past 12 months, *or* some use of each substance in their lifetime and at least one problem related to use, such as ever felt addicted.

Tables 12-14 present estimates of dependence and abuse for alcohol, marijuana, hallucinogens, cocaine/crack, heroin, and other opiates, for the total Michigan adult population and the seven study regions. Table 12 presents these estimates by each specific substance group. Table 13 provides estimates when one or more substances were involved and Table 14 presents estimates for illicit drugs only, with alcohol being excluded.

Alcohol

Overall, about 5.3 percent (392,000 persons) of the adult Michigan population was diagnosed as dependent on alcohol and another 10.7 percent (160,000 persons) were diagnosed as alcohol abusers. For each of the study regions, the proportion of alcohol abusers is larger than the proportion of dependents. The ratio of dependents to abusers varies by region, sometimes by a factor of two or three abusers for each dependent

Western region adults have the highest level of reported dependence on alcohol (7.5 percent) compared to the total Michigan population and the other study regions, and Detroit adults have the lowest level of reported dependence on alcohol (4.0 percent).

Upper Peninsula adults have the highest level of reported abuse of alcohol (14.1 percent) compared to the total Michigan population and the other study regions. Detroit adults have the lowest level of reported abuse of alcohol (8.9 percent) compared to the total Michigan population and the other study regions.

Marijuana/Hashish

Overall, about 3.5 percent of the adult Michigan population (260,000 persons) was diagnosed as dependent on marijuana and another 1.4 percent (100,000 persons) were diagnosed as marijuana abusers. For each of the study regions, the proportion of marijuana dependents exceeded the proportion of marijuana abusers.

Central region adults have the highest level of reported dependence on marijuana (4.3 percent)

compared to the total Michigan population and the other study regions. Detroit adults have the lowest level of reported dependence on marijuana (3.1 percent) compared to the total Michigan population and the other study regions.

Eastern region adults have the highest level of reported abuse of marijuana (2.1 percent) compared to the total Michigan population and the other study regions. Upper Peninsula adults have the lowest level of reported abuse of marijuana (0.8 percent) compared to the total Michigan population and the other study regions.

Hallucinogens

Only about 0.5 percent of the adult Michigan population (35,000 people) were diagnosed as dependent on hallucinogens and another 0.3 percent were diagnosed as hallucinogens abusers.

Western region adults have the highest level of reported dependence on hallucinogens (1.0 percent) compared to the total Michigan population and the other study regions. Detroit adults have the lowest level of reported dependence on hallucinogens compared to the total Michigan population and the other study regions.

The northern region has the highest level of reported abuse of hallucinogens (0.7 percent) compared to the total Michigan population and the other study regions and Detroit has the lowest level of reported abuse of hallucinogens compared to the total Michigan population and the other study regions.

Cocaine/Crack

Overall, 1.2 percent of the adult Michigan population (87,000 adults) was diagnosed as dependent on cocaine and 0.4 percent (28,000 persons) was diagnosed as cocaine abusers.

The central region has the highest level of reported dependence on cocaine (2.0 percent) compared to the total Michigan population and the other study regions. The Upper Peninsula region has the lowest level of reported dependence on cocaine (0.3 percent) compared to the total Michigan population and the other study regions.

Detroit adults have the highest level of reported abuse of cocaine (0.8 percent) compared to the total Michigan population and the other study regions and Upper Peninsula adults have the lowest level of reported abuse of cocaine compared to the total Michigan population and the other study regions.

Heroin and Other Opiates

The estimated levels of dependence and abuse of heroin and other opiates are very small for the total Michigan population. Overall, only about 0.3 percent of the adult Michigan population (18,000 persons) was diagnosed as dependent on heroin and other opiates and another 0.2 percent (13,000 persons) were diagnosed as heroin and other opiates abusers. As noted earlier in this report's section on substance use, it is likely that heroin use is seriously underreported in household surveys such as MDAPS and, therefore, diagnosis is also likely underestimated.

Detroit adults have the highest level of reported dependence on heroin and other opiates (1.2 percent) compared to the total Michigan population and the other study regions. The southeastern region has the lowest level of reported dependence on heroin and other opiates compared to the total adult Michigan population and the other study regions.

Central region adults have the highest level of reported abuse of heroin and other opiates (0.4 percent) compared to the total Michigan population and the other study regions.

One or More Substances

Table 13 displays the estimates for dependence and abuse of one or more substances for the total Michigan population aged 18 years and older and the seven study regions. Because an individual could qualify for more than one diagnosis (by using several drugs, for example) the separate diagnoses estimates cannot simply be added together to provide a total estimate of persons with a diagnosis and, therefore, in need of substance abuse treatment. Just adding together the estimates for each of the drugs would result in multiple counts in some instances and an inflated total treatment need estimate. For this analysis, all respondents who received a diagnosis of dependence or abuse on one or more substances were combined such that an individual who was dependent on one or more substances was classified as dependent, and persons who were not dependent on any substance but were abusers of one or more substances were classified as abusers.

About 8.3 percent of the Michigan adult population (611,000 persons) is dependent on one or more substances and 9.6 percent (708,000 persons) are abusers of one or more substances. It is important to keep in mind that these estimates are of lifetime diagnosis. From estimates of dependence and abuse by substance discussed earlier, it is clear that the primary substance most often involved is alcohol.

The central region has the highest level of dependence on one or more substances (9.7 percent) and the southeastern region and Detroit adults have the lowest level of dependence (7.4 percent each). The Upper Peninsula region has the highest level of adult abuse of one or more substances (12.5 percent) and the City of Detroit has the lowest level of adult abuse (7.8 percent).

Any Illicit Drug

Table 14 excludes alcohol and contains estimates of dependence and abuse of illicit drugs for the total adult population and the study regions. About 4.4 percent of the Michigan adult population (or 326,000 persons) is dependent on marijuana, hallucinogens, cocaine/crack, heroin, or opiates other than heroin and 1.2 percent (92,000 persons) are abusers of these same drugs.

The central region has the highest level of reported dependence on illicit drugs (5.5 percent) compared to the total Michigan adult population and the other study regions. The eastern region and Detroit have the highest level of reported abuse of illicit drugs (1.9 percent) compared to the total Michigan population and the other study regions.

The southeastern region has the lowest level of reported abuse of illicit drugs compared to the total Michigan adult population and the other study regions. The eastern region and the City of Detroit have the highest levels of reported abuse of illicit drugs (1.9 percent each) compared to the total Michigan adult population and the other study regions.

Problem Symptoms Reported

Table 15 presents the DSM-IV symptoms reported by respondents who acknowledged substance use in the last 12 months, or any substance use and at least one problem related to use, such as ever felt addicted. The number and proportion of symptoms reported for any substance, alcohol, and illicit drugs is displayed separately for dependence and abuse populations, as well as for Michigan adults who did not qualify for a diagnosis but used substances, for comparison purposes.

Figure 5 presents DSM-IV symptoms reported by substance dependence, abuse, and the group of users who did not qualify for a diagnosis, for the Michigan adult population statewide. The most frequently reported symptoms were "used more/longer" (2,113,000 adults); "tolerance" (1,127,000 adults); "continued use despite medical or psychological problems" (692,000 adults); and, "spent too much time on substance" (618,000 adults). These were also the most frequently reported problems reported for by adults using alcohol alone. Among adult illicit drug users, "continued use despite medical or psychological problems" (317,000 adults) was the most frequently reported problem; followed by "tried to quit" (305,000 adults); "tolerance" (274,000 adults); and, "used more/longer" (258,000 adults).

It is important to note that although a majority of problems were reported by those dependent on one or more substances, sizeable proportions were reported by those who did not qualify for a diagnosis of dependence or abuse of any substance. In some cases, the proportion of symptom problems reported by the non-diagnosis group was larger than the proportion reported by those given a diagnosis of dependence or abuse of one or more substances. One possible explanation of this is that a DSM-IV diagnosis requires a combination of symptoms and duration rather than a single symptom of unknown duration. These discrete problems are not sufficient for a DSM-IV diagnosis, which is the group defined herein as clearly in need of treatment. Nevertheless, it is important to note that numerous adult users report having many negative consequences, although they do not qualify for a diagnosis under the DSM-IV criteria.

Population in Need of Treatment

A great variety of Michigan adults need substance abuse treatment. They can be of any gender, race, and age, as well as vary on many other factors. Table 16 presents demographic characteristics of the total Michigan adult population who did not report use of any substance in their lifetime; those reporting use but who did not qualify for a DSM-IV diagnosis; and the population in need of substance abuse treatment for dependence or abuse of any substance, of alcohol with or without illicit drugs, and illicit drugs with or without alcohol.

Figure 6 presents demographic characteristics of the population in need of substance abuse treatment based on a DSM-IV diagnosis of abuse of any substance. Figure 7 presents selected

characteristics of the population in need of substance abuse treatment based on a DSM-IV diagnosis of dependence of any substance.

Further analyses of the population in need of substance abuse treatment services was done through calculation of statistical odds ratios. Table A shows the likelihood of relationships between certain demographic characteristics and substance dependence or abuse of any substance, alcohol only and illicit drugs only. Statistically significant results at the 0.05 level are noted with an asterisk.

Males were 2.8 times as likely as females to be dependent or an abuser of any substance, 2.9 times as likely as females to be dependent or an abuser of alcohol, and about twice as likely to be dependent or an abuser of illicit drugs.

The age group between18 and 24 years was as likely to be dependent or an abuser of any substance than other age groups. However, they were 0.8 times as likely (or somewhat less likely) to be dependent or an abuser of alcohol only than other age groups, and 1.8 times as likely to be dependent or an abuser of illicit drugs than other age groups.

Table A

Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Odds Ratios of Selected Demographic Characteristics and
Lifetime Dependence or Abuse of Any Substance,
Alcohol Only, and Illicit Drugs Only

2000

	Lifetime Dependence/Abuse of Any Substance	Lifetime Dependence/Abuse of Alcohol Only	Lifetime Dependence/Abuse of Illicit Drugs Only
Gender: Male	*2.807 (2.796, 2.819)	*2.905 (2.892, 2.917)	*2.096 (2.082, 2.110)
Age: 18-24 years	1.000 (0.994, 1.006)	*0.823 (0.817, 0.828)	*1.805 (1.790, 1.820)
Marital Status: Not Married	*1.232 (1.228, 1.237)	*1.162 (1.157, 1.167)	*1.545 (1.535, 1.555)
Education: Less than High School	*0.856 (0.850, 0.862)	*0.758 (0.753, 0.764)	*1.049 (1.038, 1.060)
Income: Below Poverty	*0.814, (0.808,0.819)	*0.801 (0.795, 0.807)	*1.160 (1.148, 1.172)
Employment Status: Employed	*2.166 (2.156, 2.176)	*2.136 (2.126, 2.146)	*2.732 (2.709, 2.756)
Arrested in Past Year	*2.231 (2.195, 2.268)	*1.660 (1.631, 1.691)	*3.336 (3.267, 3.406)
Use Tobacco	*2.506 (2.496, 2.516)	*2.219 (1.912, 1.925)	*2.746 (2.729, 2.764)
Race: White	*1.608 (1.599, 1.617)	*1.879 (1.867, 1.890)	*0.975 (0.968, 0.983)

*$p<0.05$

Adults who were not married were 1.2 times as likely to be dependent or an abuser of any substance, 1.1 times as likely to be dependent or an abuser of alcohol, and 1.5 times as likely to be dependent or an abuser of illicit drugs than married respondents.

Those with education less than high school and incomes below poverty were approximately 0.8 times (or less likely) to be dependent or an abuser of any substance or of alcohol only, but were 1.1 times (or somewhat more likely) to be dependent or an abuser of illicit drugs.

Employed persons were 2.1 times as likely to be dependent or an abuser of any substance, or alcohol alone; however, they were 2.7 times more likely to be dependent or an abuser of illicit drugs only than the unemployed.

Persons arrested in the past year were 2.2 times as likely to be dependent or an abuser of any substance, 1.6 times as likely to be dependent or an abuser of alcohol alone, and 3.3 times as likely to be dependent or an abuser of illicit drugs only, than those not arrested.

Tobacco users were 2.5 times as likely to be dependent or an abuser of any substance; 2.2 times to be dependent or an abuser of alcohol alone; and, 2.7 times as likely to be dependent or an abuser of illicit drugs than non-tobacco users.

Caucasians were 1.6 times as likely to be dependent or an abuser of any substance; 1.9 times as likely to be dependent or an abuser of alcohol alone; and, somewhat less likely (0.975) to be dependent or an abuser of illicit drugs than non-whites.

Looking at these characteristics in total, it appears that among Michigan adults, those most likely to be dependent or an abuser of any substance, or of alcohol alone, is one or more of the following: male, not married, employed, arrested in the past year, uses tobacco, and white.

Among Michigan adults, those most likely to be dependent or an abuser of illicit drugs alone was one or more of the following: male, age 18 to 24 years, not married, less than high school education, income below poverty, employed, arrested in the past year, uses tobacco, and non-white.

Met Demand for Treatment Services

Table 17 presents estimates of met demand for treatment services overall and among dependence and abuse populations for the total Michigan adult population and the seven study regions. Substance abuse treatment services that would qualify for consideration as met demand were described to the respondent as "a stay in a hospital, treatment center, or halfway house...seeing a counselor or receiving medication such as methadone as an outpatient, " The respondent was subsequently asked if they had ever received treatment for their alcohol or drug use and, if yes, whether they had received treatment in the past 12 months.

Overall, about 4.7 percent of Michigan adults (332,000 persons) reported ever receiving substance abuse treatment. The City of Detroit had the largest proportion of adults who reported ever receiving substance abuse treatment (7.2 percent) compared to the other study regions, and the western region had the smallest proportion (4.0 percent). Of the dependent population, 29.3

percent (179,000 persons) reported ever receiving treatment. In contrast to dependents, only 12.6 percent of abusers (90,000 persons) reported ever receiving treatment.

About 1.1 percent of the general Michigan adult population (or 74,000 persons) reported receiving treatment in the past twelve months. The Upper Peninsula region had the largest proportion of adults who reported receiving substance abuse treatment in the past 12 months (1.9 percent) compared to the other study regions, and the southeastern region had the smallest proportion (0.7 percent). Of dependents group, overall 9.3 percent received treatment in the past 12 months. Very few abusers received treatment in the past 12 months, with only 2.1 percent of all abusers reporting this occurred.

Figure 8 presents the population that ever received treatment and received treatment in the past 12 months for the total Michigan population and study regions 1-7.

Table B shows the odds ratios of selected demographic characteristics and ever receiving substance abuse services, and received services in the past 12 months.

Males were 2.9 times as likely as females to ever receive substance abuse treatment services, and 1.3 times as likely to receive substance abuse treatment services in the past 12 months.

Adults ages 18 to 24 years were 0.8 times (or less likely) to have ever received substance abuse treatment services, and 1.7 times more likely to have received substance abuse treatment services in the past 12 months.

Persons not married were 2.4 times as likely to ever receive substance abuse treatment services, but 0.7 times (or less likely) to receive substance abuse treatment services in the past 12 months than married persons.

Respondents with less than high school education, and employed were about 1.5 times more likely to have ever received substance abuse treatment services, and 0.7 times less likely to have received substance abuse treatment services in the past 12 months.

Respondents with incomes below poverty were 1.5 times more likely to have ever received substance abuse treatment services; but no more likely than those with incomes above the poverty level to have received substance abuse treatment services in the past 12 months.

Employed persons were 1.4 times more likely to ever receive substance abuse treatment services than the unemployed; and, 2.3 times more likely to receive substance abuse treatment services in the past 12 months, than those unemployed.

The most common factor associated with both ever-receiving substance abuse treatment services and receiving substance abuse treatment services in the past 12 months was whether a person was arrested in the past year. Arrested persons were 4.3 times more likely to have received substance abuse treatment services at some time in their lives; and, 6.2 times more likely to receive substance abuse treatment services in the past 12 months, than those not arrested in the past year.

Persons who acknowledged tobacco use were 3.4 times more likely to have ever received substance abuse treatment services, and 2.0 times more likely to have received substance abuse treatment services in the past 12 months than non-tobacco users.

Table B

Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Odds Ratios of Selected Demographic and Other Characteristics and
Ever Receiving Substance Abuse Treatment Services and
Receiving Substance Abuse Treatment Services in the Past Twelve Months

2000

	Ever Received Substance Abuse Treatment Services	**Received Substance Abuse Treatment Services Past 12 Months**
Gender: Male	*2.933 (2.911, 2.956)	*1.310 (1.284, 1.335)
Age: 18-24 years	*0.785 (0.775, 0.795)	*1.761 (1.713, 1.809)
Marital Status: Not Married	*2.408 (2.387, 2.429)	*0.707 (0.689, 0.725)
Education: Less than High School	*1.451 (1.436, 1.467)	*0.754 (0.734, 0.773)
Income: Below Poverty	*1.508 (1.492, 1.525)	0.998 (0.972, 1.025)
Employment Status: Employed	*1.441 (1.430, 1.453)	*2.345 (2.291, 2.401)
Arrested in Past Year	*4.383 (4.295, 4.473)	*6.244 (6.006, 6.493)
Use Tobacco	*3.414 (3.390, 3.438)	*2.032 (1.997, 2.067)
Race: White	*0.952 (0.943, 0.960)	*0.714 (0.700, 0.729)
Lifetime Dependence/Abuse Any Substance	*23.016 (22.812, 23.223)	*6.006 (5.803, 6.216)
Lifetime Dependence/Abuse Alcohol Only	*20.876 (20.703, 21.051)	*2.273 (2.223, 2.325)
Lifetime Dependence/Abuse Illicit Drugs Only	*10.224 (10.142, 10.307)	*3.590 (3.529, 3.652)

*$p<0.05$

Whites were somewhat less likely (0.9) to have ever received substance abuse treatment services and substance abuse treatment services in the past year (0.7) than non-whites.

Among Michigan adults, those who were most likely to have ever received substance abuse treatment services was one or more of the following: male, not married, less than high school education, income below poverty, employed, arrested in past year, uses tobacco, and non-white.

Among Michigan adults, those who were most likely to receive substance abuse treatment services in the past 12 months was one or more of the following: male, age 18 to 24 years of age, employed, arrested in past year, tobacco user, and non-white.

Unmet Demand for Treatment Services

Persons who stated that they had not received substance abuse treatment in the past 12 months were asked if they thought they needed treatment. If the respondent answered in the affirmative, they were asked if they would have gone had it been available and if they actually took steps to obtain treatment services. Table 18 displays Michigan estimates of unmet demand for treatment services of those adults who perceived treatment need, would have gone if it were available, and took steps to obtain it, for the total Michigan adult population and the study regions.

Among Michigan adults, there were 2.1 percent (155,000 persons) who did not receive substance abuse treatment in the past 12 months, although they perceived a need for such treatment. The eastern region had the largest proportion of adults who did not receive substance abuse treatment but perceived a need (2.6 percent) compared to the other study regions and the Upper Peninsula region had the smallest proportion (0.9 percent) with this status. Of the 155,000 persons who thought they needed treatment but didn't get it, 80,000 persons were dependent on some substance, (which is about 13 percent of all estimated dependents), while about 31,000 persons (which is about 4.3 percent of all abusers) were abusers of some substance. About 44,000 Michigan adults who did not qualify for a diagnosis nevertheless perceived a need for substance abuse treatment, yet did not receive it in the past year.

Among the 155,000 adults who perceived a need for treatment, an estimated 80,000 of them would have gone if such treatment had been available. Detroit adults had the largest proportion of adults who did not receive treatment but would have sought treatment if it had been available (2.8 percent) compared to the other study regions, and the southeastern region had the smallest such proportion (0.7 percent). Nearly seven percent of dependents (40,000 persons) stated they would have gone for treatment if it had been available and 1.6 percent of abusers (12,000 persons) would have gone for treatment if it had been available. About 28,000 Michigan adults who did not qualify for a diagnosis would have gone to substance abuse treatment if it were available.

Of the 80,000 who stated they would have gone to treatment, 10,000 stated they took steps to obtain it. This group was entirely made up of dependents.

Table 19 presents estimates of the specific type of treatment services (by category) identified by those who would have sought them in the past 12 months had they been available. More than one type of service could be identified here.

The most common treatment that would have been sought if it were available was outpatient (by 40,000 persons), followed by residential detoxification (34,000 persons) and hospital treatment (31,000 persons). Persons who qualified as dependents were much more likely to report a specific type of treatment they would have gone to, and they identified outpatient and hospital services as desired on an equal basis, followed by residential detoxification. Those who did not qualify for a diagnosis exceeded those who were abusers in identifying specific types of treatment they would have gone to had it been available, with about equal proportions identifying outpatient and residential detoxification as desired, at a rate about twice that for hospital services. Among abusers, relatively smaller numbers identified outpatient or residential detoxification as desired although not available and virtually none of this group identified hospital services are desired and not available.

Comparison of the 2000 and 1995 MDAPS Results

Over five years ago, the Michigan Department of Community Health (MDCH) conducted the Michigan Drug and Alcohol Population Survey (MDAPS) for the first time. The 2000 MDAPS was designed to be as close as possible to the 1995 survey in order to be able to compare the results in 2000 with the results in 1995 and look for similarities and differences in results. This would aid MDCH in understanding trends in the need for substance abuse treatment services over time, thus, allowing for a longer view in treatment planning and resource allocation.

The 1995 Michigan Drug and Alcohol Population Survey - Overview

Some information about the 1995 survey itself will be presented here. For a detailed description of the survey and its results, a copy of the report (5) may be found in the State of Michigan library system collection or requested from MDCH.

Data collection for the 1995 survey was conducted from September 1994 to March 1995 by trained interviewers of the Gallup Organization utilizing a Computer-Assisted Telephone Interview (CATI) system. A total of 7,136 respondents were interviewed from a structured interview developed by the National Technical Center (NTC) for Substance Abuse Needs Assessment at Harvard University (6).

A diagnosis of lifetime substance dependence, dependence-indeterminant or abuse was based on participant responses to a modified Diagnostic Interview Schedule - Substance Abuse Module (DIS-SAM) based on the Diagnostic Statistical Manual, third edition, revised (DSM-III-R) (7). According to DSM-III-R, for psychoactive dependence or abuse disorders, there were nine symptom, or problem, categories. These included:

- Substance often taken in larger amounts or for a longer period than the person intended;
- Persistent desire or one or more unsuccessful efforts to cut down or control use;
- A great deal of time spent in activities necessary to get the substance (e.g., theft), taking the substance (e.g., drinking from morning until falling asleep at night), or recovering from its effects;

- Frequent intoxication or withdrawal symptoms when expected to fulfill major role obligations at work, school or home (e.g., does not go to work because hung over, goes to school or work high, intoxicated while taking care of his or her children) or when substance use is physically hazardous (e.g., drives when intoxicated);

- Important social, occupational, or recreational activities given up or reduced because of substance use;

- Continued substance use despite knowledge of having a persistent or recurrent social, psychological, or physical problem that is caused or exacerbated by the use of the substance (e.g., keeps using heroin despite family arguments about it, cocaine-induced depression, or having an ulcer made worse by drinking);

- Marked tolerance: need for markedly increased amounts of the substance (e.g., at least a 50 percent increase) in order to achieve intoxication or desired effect, or markedly diminished effect with continued use of the same amount;

- Characteristic withdrawal symptoms; and,

- Substance often taken to relieve or avoid withdrawal symptoms.

In addition to the diagnostic symptom questions, information was obtained regarding the duration of symptoms (e.g., some symptoms have persisted for at least one month, or have occurred repeatedly over a longer period of time). A diagnosis of dependence was given if the respondent met the symptom criteria for three or more symptom items and the duration criteria for two or more for a specific substance. The few respondents who reported substantial problems but did not answer some questions were classified as dependence-indeterminant. A diagnosis of abuse was given if the respondent did not meet the criteria for substance dependence for that substance and met the symptom criteria for one or more symptom items and duration criteria for one or more duration items.

Prevalence estimates of lifetime diagnoses of dependence, dependence-indeterminate or abuse were calculated for alcohol and five other drugs: marijuana/hashish, hallucinogens, cocaine (including crack), heroin, and other opiates. Determination of a respondent's need for treatment was operationalized as having a DSM-III-R lifetime diagnosis of dependence, dependence-indeterminant, or abuse of one or more of these substances. Questions were also asked about substance use, met and unmet demand for substance abuse treatment services.

The Council of American Survey Research Organizations (CASRO) response rate, which reflects telephone sampling efficiency and the degree of cooperation among eligibles contacted, was 61.4 percent in the 1995 MDAPS.

Differences between the 1995 and 2000 MDAPS Surveys

Although every attempt was made to conduct the 2000 survey as close as possible to the 1995 protocol, certain differences were unavoidable. One major difference between the 1995 and 2000 surveys was the change of the diagnostic categorization of substance abuse dependence and abuse from DSM-III-R to DSM-IV. This change necessitated the development of a new

questionnaire for the 2000 survey, based on the DSM-IV. The effect of this change would be reflected in the rates and population estimates of those diagnosed as dependent or an abuser (e.g., in need of substance abuse treatment services). Any change in rates and population estimates could, therefore, be a result of the change in categorization rather than reflecting a real increase or decrease in the need for treatment services in the Michigan adult population from 1995 to 2000. Therefore, it is not possible to know whether a change in rates and population estimates in dependence and abuse is a real change from 1995 to 2000, or simply a reflection of a change in categorization of substance dependence and abuse, or both.

Another difference between the 1995 and 2000 surveys was the number of interviews completed and the CASRO response rate. The 1995 involved considerably more interviews (7,136 in 1995 versus 4,698 in 2000), and a higher CASRO response rate (61.4 percent in 1995 versus 44.1 percent in 2000). Therefore, the precision of the estimates in 1995 was likely higher, especially in Detroit where the CASRO response rate in 2000 was 30.5 percent. Differences between the results in 1995 and 2000 may not be easily detected because of less precision in the 2000 survey.

Results from these two surveys involve substance use, dependence and abuse (e.g., need for substance abuse treatment services), met demand for substance abuse treatment services, and unmet demand for substance abuse treatment services. The reports from each of these surveys address these areas individually. Taken together, it is possible to contrast the results in each of these areas from 1995 to 2000. Results were considered significantly different when the confidence intervals of the same questions from the two surveys did not overlap.

Examining the confidence intervals with the above limitations reveals that there was no significant difference detected in substance use, met demand and unmet demand for substance abuse treatment services. The confidence intervals in the respective estimates from the two surveys overlapped.

Using the same method of comparison, there is an important difference in the rate of dependence and abuse between the 1995 and 2000 surveys. In 1995, the rate of dependence was 4.9 percent and the rate of abuse was 4.9 percent. This compares to the 2000 survey where the rate of dependence was 8.3 percent and the rate of abuse was 9.6 percent. Therefore, the rates of dependence and abuse (the need for substance abuse treatment services) were significantly higher in 2000 compared to 1995. The combined rate of dependence and abuse in 1995 was 9.8 percent; whereas, in 2000 the combined rate of dependence and abuse was 17.9 percent.

However, the rates of substance use, met demand for substance abuse treatment services, and unmet demand for substance abuse treatment services were not significantly different from 1995 to 2000. It is possible that the increase in rates of dependence and abuse might be due to factors other than a real change in dependence and abuse from 1995 to 2000. One factor is the change in categorization from DSM-III-R to DSM-IV, as noted above. Another factor is that the diagnostic questions were asked using partially different screens in the two surveys; the 1995 survey asked these questions if there was some level of use in the past 18 months and at least one problem related to it, while the 2000 survey asked these questions if there was lifetime use and at least one problem related to it. Another factor that is possible is that the persons interviewed in the 2000 survey may have been more willing to admit problems related to their substance use than

they were in 1995; however, that is unlikely when they did not report that they obtained substance abuse treatment services or report that they were unable to obtain substance abuse treatment services they wanted to a significantly greater extent than what was reported in 1995.

Another factor is the change in the questionnaire from 1995 to 2000, which increased the pool of persons asked the diagnostic questions, and who then responded in patterns that resulted in more qualifications for a diagnosis. Still, the pool would have been asked the diagnostic questions as determined by the diagnostic categorization, which changed from 1995 to 2000. A change in dependence and abuse rates would not be a real change, but rather due to the change in questionnaire that modified the pool, and the change in diagnostic criteria. This is supported by a study by McAuliffe, et. al. (8), in which similar dependence/abuse rates to those obtained in the 2000 MDAPS were obtained using the identical questionnaire in Rhode Island. McAuliffe, et. al. obtained lifetime substance dependence diagnoses findings for adults of 6 percent and lifetime abuse diagnoses of 10 percent. This is similar to Michigan's 8.3 percent and 9.6 percent, respectively.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) published a study in 1993 (9), which compared DSM-III-R and DSM-IV categorization of alcohol dependence and abuse in a representative sample of the United States general population. The result of the study showed that the findings for prevalence using the DSM-IV for alcohol abuse exceeded that of dependence, which was a reversal of findings using the DSM-III-R for the abuse-to-dependence ratio.

Another study by Hasin and Grant in 1994 (10), tested the DSM-III-R to DSM-IV categorization of alcohol dependence and abuse disorders in a population of patients in an inpatient alcohol rehabilitation unit in New York. Alcohol dependence was consistently diagnosed in this sample with either categorization but DSM-IV classified over three times as many patients as alcohol abusers.

In the 2000 MDAPS survey findings, the rate of dependence for alcohol was 5.3 percent and the rate of alcohol abuse was 10.7 percent. The findings for the ratio of dependence and abuse rates seen in the 1995 MDAPS, versus the 2000 MDAPS, are consistent with the results of the above U.S. general population and Rhode Island population studies (in the 1995 MDAPS study, adult alcohol dependence was 4.2 percent and alcohol abuse was 4.9 percent). This adds credibility to the likelihood that the increases in the dependence and abuse rates found in 2000, as well as the dependence-to-abuse ratio shift is at least partially a product of the change in diagnostic categorization from DSM-III-R to DSM-IV, with more abuse cases being identified in the newer diagnostic approach.

Discussion

Utilizing the operational definition of the need for substance abuse treatment services as the population qualifying for a DSM-IV lifetime diagnosis of dependence or abuse based on self-reports of substance use and attendant consequences, about 17 percent (1,319,000 persons) of the Michigan adult population is in need of treatment for one or more substances.

Some of the Michigan adult populations in need of substance abuse treatment are not current users, however. Substance abuse, as a chronic relapsing disorder, often involves multiple periods of use and non-use, as those who are dependent or an abuser struggle on an ongoing and daily basis in

attempts to deny problems, control their use, or ultimately gain and maintain abstinence. Substance abuse treatment is an ongoing critical resource for those who may not have yet been able to completely and successfully gain long-term abstinence. This population, who has acknowledged they have used and experienced one or more associated problems or negative consequences, is at highest risk for relapse.

Further analysis of MDAPS 2000 survey data reveals that among the population with a lifetime diagnosis involving alcohol (1,152,000 adults), there were 284,156 persons (25 percent of those with a diagnosis) who reported they did not use any alcohol in the 12 months prior to the survey. Among those 418,000 Michigan adults who qualified for a lifetime diagnosis involving illicit drug use, there were 253,878 persons (61 percent of the illicit drugs-diagnosed population) who did not use any of these drugs in the 12 months prior to the survey. More than one in every five (22 percent, or more than 291,000 persons) of the population of Michigan adults in 2000 who qualified for a lifetime diagnosis for some substance (1,319,000 persons) reported no use of that substance in the 12 months prior to the survey. Treatment services need to be available for the diagnosed but currently non-using populations, to immediately provide assistance in supporting sobriety, abstinence, and intervention if an individual succumbs to a return to use. There is a clear need for substance abuse treatment for the population of Michigan adults (more than 1 million persons, or 14 percent of Michigan adults) with a lifetime diagnosis who have used substances during the past 12 months, regardless of whether they are actively using or have been able to begin recovery during this time frame. It is well accepted that recovery and abstinence are often quite fragile and highly stressful, particularly after a period of months and years of heavy and intensive substance use.

The nearly 300,000 Michigan adults who are not actively using, even though they qualify for a lifetime diagnosis, are deserving of support and encouragement from all those who know or come in contact with them. These individuals can be role models for others seeking their own recoveries.

However, only a small proportion of the population of Michigan adults in need of treatment, about 25 percent, have ever received some treatment in their lifetime and 5 percent have received treatment in the past 12 months. Furthermore, the persons who reported they had received treatment in the past 12 months were largely all dependents. The survey findings show that there is a large population of Michigan adults who, by their own self-reports, experience serious consequences of substance use yet have not sought treatment. Only 2.1 percent of the population who did not receive treatment thought they needed it and still fewer actually took steps to obtain it. Thus, though the need for treatment may be great, the demand has remained relatively limited. An additional consideration is that there was a decline in admissions to MDCH-supported treatment services reported between 1995 and 2000.

On the other hand, a group of persons who need treatment did perceive the need and stated they would have gone had it been available. The reasons given for not obtaining treatment were: that they didn't want anyone to know they had a substance abuse problem; a lack of insurance or money to pay for treatment; the programs were believed to be operational only during hours which conflicted with work schedules; the type of treatment desired was not available; or, the treatment facility was located a burdensome distance from the respondent's home and not accessible by public transportation. These results are consistent with those from the 1995 MDAPS. The finding that there is a sizable group who perceived a need for treatment and stated they would have gone to treatment if it had been available, suggests that barriers to access treatment exists. An important strategy would be to determine what interventions might be used to reduce these barriers to accessing treatment.

Limitations of the Study

All population surveys are limited in that they rely upon the cooperation, comprehension, honesty, and memory of the respondents. Under reporting or over reporting is possible, especially in the case of self-reported information on socially unacceptable behavior such as the use of illicit drugs. The estimates presented herein are considered reliable overall but they are more likely to be conservative.

The MDAPS is a survey of a sample of adults in Michigan households with telephones; thus, the results represent only this population. The sample does not represent other sectors of the population, such as adults not living in households (the homeless or those living in institutions) or adults living in households without telephones. These populations may have different rates of substance use than the general population. As these sectors of the population are quite small (according to the 2000 census, only 3.6 percent of Michigan households did not have telephones), it is unlikely that their omission would substantially affect the total estimates. However, the Washington, D.C. Metropolitan Area Drug Study (11) found that, for some categories of drug users, the nonhousehold population included a substantial portion of users. About 20 percent of past month crack users, 20 percent of past year heroin users, and one-third of past year injection drug users were found in the nonhousehold population in Washington, D.C. Similar circumstances may partially account for low estimates of cocaine/crack and heroin use in the MDAPS household population.

It should also be noted that these data are obtained from a sample of respondents, rather than a complete census. Survey results provide estimates rather than precise absolute counts and are the best possible in light of the sampling design utilized in the study. The reader should keep in mind that small differences in rates between population subgroups (such as among the study regions) likely do not represent significant differences, but rather are likely to be more a result of unavoidable sampling error. Differences noted in findings in this report should not be considered statistically significant unless noted as such or highlighted as differences in text descriptions.

In addition to these technical considerations, it is important that the results presented herein be placed into the context of the entire MDCH substance abuse treatment needs assessment effort, of which the MDAPS is only one of a family of studies conducted by MDCH. These studies as a group were planned to produce estimates of use, dependency, abuse, need, and demand for treatment in the Michigan general population and certain special populations. As such, the results of the MDAPS should not be examined or utilized in isolation but rather as part of an ongoing, comprehensive effort. Other studies completed by MDCH utilized different methodologies and, in many instances, focused on special issues or populations that the household survey could not address in adequate detail. Study methods and sample designs varied due to different topics of investigation, sampling challenges, and practical data collection considerations. For example, the 1994 Heroin Prevalence Study, which was a deliberate attempt to provide a different approach to the household survey in estimating heroin prevalence, in fact did produce more robust findings about this specific population of interest. The variety of studies completed has produced varying views of the complex concept of the need for substance abuse treatment services. Some of these studies utilized information collected for other purposes but which can be used as indicators of the need for treatment, such as mortality induced or related to substance use, communicable diseases, and arrests for illicit drugs. As such, they did not have the limitation of self-reported information, although they may have other limitations that the MDAPS does not have, such as fewer rigors in the uniformity in data collection procedures.

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Appendix A

Sample Design
Weighting of the Sample Data
Sampling Error
Response Rate
Telephone Number Final Status and Definition of Terms
Final Response Rate Report

Sample Design

The goal of the 2000 Michigan Drug and Alcohol Population Survey (MDAPS) was to estimate the use, abuse, and dependence prevalence for alcohol and drugs and, on that basis, to project the substance abuse treatment needs of adult users of those drugs. The estimates were to be obtained at the state level, at the sub-state planning region level, and for subgroups based on race, sex, and age. For the purpose of sampling, the adult population of the state of Michigan was stratified into seven strata (hereafter referred to as "regions") and sampling was accomplished separately within each region. The definition of each of the seven sub-state planning regions (or strata) in terms of counties is given in Table 1 (Appendix B).

The Gallup Organization completed a total of 4,698 telephone interviews. The number of completed interviews in different regions is given below in Table A.

Table A

Number of Completed Interviews By Region

Region	*Number of Interviews*
1 (Upper Peninsula)	691
2 (Northern)	623
3 (Western)	643
4 (Central)	704
5 (Eastern)	636
6 (Southeastern)	934
7 (City of Detroit)	467
Total	**4,698**

There are essentially two types of sampling frames used for telephone surveys. One is the BCR (Bell Core Research) frame that is generated by appending all 10,000 four digit suffixes (0000 to 9999) to the area code-prefix combinations. The telephone numbers in the BCR frame are grouped into banks of 100 numbers using the area code, three-digit prefix, and the first two digits of the suffix to specify each bank. An unrestricted random sampling of telephone numbers (called Random Digit Dialing) from the BCR frame, however, turns out to be quite inefficient since only about 20 percent of all numbers at the national level are expected to be WRNs (working residential numbers). The other type of frame is a list or directory-based frame that yields a significantly higher rate of WRNs. However, samples drawn from such lists do not include unlisted (or unpublished) telephone numbers and studies of telephone households with or without published numbers suggest that estimates based on such samples may be biased.

We, therefore, did not use list or directory-based frames. However, as noted above, simple unrestricted RDD (Random Digit Dialing) from the BCR frame would have added considerably to the cost of the survey. In order to avoid the problem of low hit-rate and higher cost, we used the telephone sampling method proposed by Robert J. Casady and James M. Lepkowski (1993). The Casady and Lepkowski method effectively uses bank-level information from the BCR frame

for the State of Michigan and achieve a much higher (about 50-55 percent) hit rate. The bank level information is available from Survey Sampling, Inc. (SSI).

A telephone number in the United States is 10 digits long (AAA EEE XXXX), where the first three digits are the area code, the second three are the exchange, and the last four are the number within the exchange. The area code, three-digit prefix and the first two digits of the four-digit suffix specify a 100-bank containing 100 telephone numbers. For example, within area code 301, exchange 738, one such 100-bank is 301 738-12XX where the last two digits range from 00 to 99. The Casady-Lepkowski procedure uses the BCR (Bell Core Research) frame for the study area. For this study, this frame of all possible telephone numbers (containing both listed and unlisted numbers) was stratified into two strata: a "high density" stratum consisting of 100-banks with two or more listed residential numbers and a "low density" stratum consisting of all the remaining numbers in the BCR frame. For each region (or strata), we followed the Casady-Lepkowski truncated design (e.g., an RDD sample of specified size from the high density stratum of that region was selected). The information on the number of listed residential numbers in each bank was obtained from Survey Sampling, Inc. The percentage of working residential telephone numbers in the low-density stratum (consisting of all 100-banks with no or one listed residential numbers) was very low, while the corresponding percentage in the high-density stratum was expected to be around 52 percent. Hence, in view of cost and operational efficiency, we did not sample from the low-density stratum. For the purpose of constructing the high-density stratum for any county, it was necessary to match geographic areas with telephone exchanges. This matching process is approximate and; hence, the final determination of which county a particular respondent belonged to was based on his/her actual answer to a question like, "what county do you live in?" For sub state planning Region 7 (the City of Detroit), the final determination was based on a question like, "Do you live inside or outside the City limits of Detroit?" For sampling purposes, census tract level information was used to construct the sampling frame for Region 7 (City of Detroit).

There are several advantages of the Casady and Lepkowski design for sampling of telephone households. First, it is a probability sample and; hence, it was possible to apply statistical weights to the sample data to yield reliable survey-based estimates. Second, it achieves a significantly higher hit-rate (compared to unrestricted RDD approach) without creating any serious coverage problem. This design of sampling households is also not a clustered design and; hence, usually has lower variance than a clustered design like the Mitofsky-Waksberg (1970 and 1978) design. Finally, the Casady and Lepkowski design is operationally much simpler to implement.

After sampling of a telephone household, a purely random selection method was used to select an adult from all eligible adults residing in the sampled household. The within household selection was done with the goal of oversampling the younger adults particularly in the age group 18-24. After selection of a household, one of the age-groups (18-24, 18-34 and 18+) was chosen with certain probabilities at random. For example, the age group 18-24 could be selected with probability .3 (30 percent of the times), the age group 18-34 with probability .3 (30 percent of the times) and the age-group 18+ with probability .4 (40 percent of the times). After selection of the age group at random, all adults within that age group were listed and one was chosen with equal probability in a purely random way. The number of interviews completed for different age groups was continuously monitored and the selection probability of the different age-groups were changed a few times during the data collection process to adjust the over-sampling rate. In

case of selection of the 18-24 or 8-34 age group, an interview was attempted with someone, if any, from those age groups. If no one was available from the selected age groups, no interview was done even if there were adults in that household from other age groups. If the person eventually selected through this process was not available at the time of initial contact, the interviewer would call back later to contact and interview the randomly selected respondent.

The initial sample of telephone numbers was obtained from Survey Sampling, Inc. The size of the initial sample was large enough to produce the required number of completed interviews in all seven regions. The initial sample was first randomly divided into sub-samples called "replicates" and then groups of replicates were released periodically for interviewing. By the end of the study, the phone management system fed a total of 46,234 telephone numbers to the interviewers through the CATI system according to the project-specific call design. The system was programmed by Gallup programmers to give daily information on the distribution of pending and completed cases by region to assist the Study Director in reporting and problem solving. This capability was extremely useful in recording and monitoring the number of sample telephone numbers in different outcome (completes, break-offs, callbacks, refusals, etc.) categories. At any point in time, decisions regarding release of additional sample numbers, if necessary, were based on these numbers. The number of completed interviews by region and age groups was monitored daily by the interviewer supervisors and checked against the sample design targets.

Weighting of Sample Data

The sample data were weighted to compose estimates. The final weight assigned to any case was the product of the weights generated at several stages of the weighting process. The first step was to correct for unequal selection probabilities (at the household level) due to (i) unequal number of telephone lines in different households; and, (ii) disproportionality imposed by disproportional allocation of the sample to different regions (or strata). In order to correct for (i), every respondent was given a weight equal to the reciprocal of the number of telephone lines in that household. An increase in the number of phone lines in a household increases the probability of selection of the household and, hence, decreases the weight. At this step, the weighting factor for an adult chosen from a household with two telephone lines, for example, will be 1/2. For (ii), every respondent in any region was assigned a weight equal to the ratio of the "target proportion" (e.g., proportion of sample that should have been allocated to region under proportional allocation) and "actual proportion" (e.g., proportion actually sampled for that region).

The second step was to correct for the unequal probability of selection within a household. The within household selection probability was dependent on two components: (i) the random selection scheme for selection of one of the three age-ranges (18-24, 18-34 and 18+) and (ii) the number of adults in the three different age groups within the selected household. As mentioned before, the random selection scheme for the three age groups was changed a few times during the data collection period. However, records of these changes were kept and for every completed interview, the particular scheme (e.g., the set of probabilities with which the age-groups were selected for that particular case) was first identified. Once the scheme or the age-group selection probabilities were known, the probability of selection of the adult chosen from that household could be computed using the information on the number of adults in that household in the three different age-groups. It may be noticed that a younger adult (e.g., in the 18-24 age-group) had a much higher chance of being selected as compared to someone older (e.g., more than 45 years of age) under this scheme. Irrespective of what age-group is chosen for sampling for the selected household, a person in the 18-24 age-group always had a chance of being selected. On the other

hand, a 45-year old adult had a positive chance of being selected only when the third age group (18+) was chosen in the first stage of within household sampling. The weight (to correct for unequal selection probabilities within household) attached to any selected respondent was equal to the inverse of the within household selection probability. For the purpose of constructing sample weights, the values of the variables "number of adult members in the selected age-group" and "number of residential telephone lines" were truncated at a suitable maximum value in order to avoid extreme weights and it's effect on variance. The variable "number of residential lines" was truncated at two whereas the variable "number of adult members" was truncated at four. The distribution of weights constructed at different stages were studied and trimming of some extreme weights were undertaken to reduce the effect of large weights, to the extent possible, on variance of estimators. The cumulative weight at this stage (the base weight) was the product of the weights generated at all previous stages. So, the base weight was equal to the product of the weight components constructed to correct for unequal household selection probabilities and unequal within household selection probabilities.

The next step was post-stratification weighting. Within each of the seven regions, post-stratification adjustment cells were formed by crossing different levels of the variables age, gender, and race. Necessary ratio adjustments were done to achieve the target proportions in all the cells. The target proportions were derived from the current census estimates. These estimates were based on 2000 census data if the corresponding data at the required level were available from the latest census. Otherwise, they were based on current estimates of 1990 census data. The different levels of the variables used to form the post-stratification cells were as follows. We used two age groups (18-44 & 45 and above), two gender groups (Male and Female) and two racial (white and non-white) groups. The weighting factor for any respondent in a particular cell was the ratio of the target proportion and the corresponding observed proportion (weighted by base weight) in the sample. At this stage, the weight for each case was updated by multiplying the base weight by the corresponding post-stratification adjustment weight. During the post-stratification weighting phase, some small adjustments cells (in some regions) had to be collapsed to form one cell. This was done to deal with small cells that can potentially result in extreme weights and generate unstable estimates. Finally, individual weights within each region (or strata) were adjusted so that total weighted count matched the target population size of that region.

Sampling Error

Sampling error is an inverse measure of precision associated with the estimates based on sample data. In this report, a 95 percent confidence interval is provided with each estimate included in the tables. The sampling error of an estimate is defined as the half-width of the corresponding confidence interval and is computed as 1.96 times the standard error of the estimate. Gallup generated standard errors of all the weighted estimates included in the tables. The standard error of a survey statistic (estimator) is a function of both of the form of the statistic and of the nature of the sampling design. The form of the statistic (estimator) used in this report is relatively simple (counts, proportions, or totals). However, the sampling design involves stratification (by region) and there are sampling weights to take care of unequal probabilities of selection and post-stratification adjustments. A common mistake is to use simple random sampling formulae to estimate standard errors, regardless of the design or estimator actually employed. Standard statistical software packages like SPSS or SAS do not take into consideration the sample design. For the purpose of estimating standard error from sample surveys involving complex sampling and estimation procedures, two general classes of methods are commonly used: "linearization" and "replication" methods. Gallup used the software SUDAAN based on Taylor Series

Linearization technique. The sample design statements used in the SUDAAN program were DESIGN = STRWR, the NEST and the WEIGHT statements. The seven sub-state planning regions were chosen as the strata and were included in the NEST statement. The SUDAAN program was run for different subgroups (subpopulations) of interest.

The sampling error for any estimate depends on the sample size or the number of completed interviews based on which the estimate is derived. However, the number of completed interviews or the nominal sample size, in most cases, will not be equal to the effective sample size. It will depend on the value of the "design effect" of the sample design. The design effect of an estimator under a sample design is the ratio of variance of the estimator under the design to that based on a simple random sample of the same size. If n and n_e are respectively the nominal and the corresponding effective sample size, then it can be easily shown that $n=d*n_e$, where "d" is the design effect. In this particular study, the sample data were weighted and, hence, the standard error of any estimate will differ from what can be approximated under the assumption of simple random sampling. From Table 1, it may be seen that the minimum sample size at the regional level was 467 in Region 7 (City of Detroit). So, estimates at the regional level (e.g., based on the total sample size at the regional level) for all seven regions should have reasonably good precision attached to them. However, the design effect should also be considered and so we can find the resulting sampling error by looking at the corresponding confidence intervals included in the report. Let us, for example, consider the estimate of Any Illicit Drug Use – Ever Used (Table 11) for Region 7. Under the assumption of simple random sampling, based on the estimate of 31.3 percent, the sampling error (half-width of the confidence interval) would be about 4.2 percent. However, as can be seen from the table, the half-width of the confidence interval, as expected, was higher (5.2 percent). However, the design effect or the effect of weighting on sampling error for this particular estimate was not very high. The corresponding confidence interval may be interpreted as follows: under repeated sampling, 95 percent of the resulting confidence intervals (similar to the particular one (26.1,36.5) obtained in this study) will include the true unknown value of the population parameter P, the percentage of adults in the City of Detroit who have ever used any illicit drug. It is difficult to make a general statement about the precision of all the estimates presented in this report. Estimates based on subpopulations will have different sample sizes and, hence, different sampling errors (and confidence intervals) attached to them. However, the confidence intervals will always provide a measure of the precision of the estimates and the reader can always make decisions about the reliability or acceptability of any particular estimate based on the width of the corresponding confidence interval and the specified level of precision (the tolerance limit).

Response Rate

Response rates are one measure of the extent to which a data set accurately reflects the opinion of a given population. The Gallup Organization used the Council of American Survey Research Organizations' (CASRO) guidelines for calculation of the response rate for the adult household telephone survey.

As each number was called, the connect result was recorded. An extensive call history of each phone number was compiled. For every released telephone number, this history included, among other things, the time and date of each call made to that number, the start and end time of each call, the ID number of the interviewer making each call, and the result of each call. The software was programmed to distribute any number with an unresolved status according to the call design. All callbacks were scheduled and, therefore, executed by the system. The SURVENT and the

phone management systems allowed for case disposition reporting, call statistics, and interviewer productivity figures, as well as the monitoring and reporting of data collection progress daily. The information on final telephone status of all the numbers that were called is summarized in the following table for each region and for the entire state (all regions combined).

Table B: Final Telephone Status								
Sub-State Planning Region								
Status of Phone Numbers Used*	**Region 1: Upper Peninsula**	**Region 2: Northern**	**Region 3: Western**	**Region 4: Central**	**Region 5: Eastern**	**Region 6: Southeastern**	**Region 7: City of Detroit**	**All State**
Used	5,720	5,975	5,714	5,632	5,490	9,435	8,268	46,234
Completes	690	614	637	727	632	850	548	4,698
Break-Off Screening Complete	5	11	5	6	4	15	5	51
Break-Off Screening Incomplete	55	58	72	67	88	120	76	536
Quota Filled	0	0	0	0	0	0	0	0
Failed Screener	1,102	1,000	1,031	1,007	1,059	1,505	977	7,681
Screener DK/Refused	169	184	183	214	250	321	285	1,606
Callback Screener Complete	5	5	6	4	8	11	11	50
Callback Screener Incomplete	359	389	355	408	411	808	839	3,569
Other	121	164	177	178	228	398	424	1,690
Refused	233	253	228	296	304	536	436	2,286
Deafness/ Language Problem	38	22	67	33	41	125	156	482
Non-Target	797	853	976	904	864	2066	1,466	7,926
Busy	84	117	110	105	91	204	121	832
Answering Machine	109	262	160	152	134	311	387	1,515
No Answer	557	749	539	559	454	1029	1,160	5,047
Non-Working/ Disconnect	1,396	1,294	1,168	972	922	1,136	1,377	865
Contact Rate	78.7%	70.5%	77.3%	78.3%	81.7%	75.2%	69.3%	75.4%
Co-operation Rate	70.6%	67.3%	69.6%	66.5%	65.2%	61.9%	56.5%	64.7%
Completion Rate	98.6%	97.5%	98.3%	98.6%	98.1%	97.0%	97.2%	97.9%
CASRO Response Rate	54.7%	45.9%	50.1%	49.1%	47.7%	40.2%	30.5%	44.1%

The overall CASRO response rate for the survey was 44.1 percent. Table B presented the number of cases with different phone status. It also presented three derived rates (Contact Rate, Co-operation Rate, Completion Rate) and the overall CASRO response rate. The intermediate numbers that are used to calculate these rates are all included in the detailed response rate report. It may be noted from Table B that there was some variation in overall response rates across the seven regions. It was 54.7 percent in Region 1, whereas, it was about 30.5 percent in Region 7. The Contact Rate and the Co-operation Rates were also relatively low for Region 7. However, the Completion Rates (proportion of interviews completed out of the cases that were found to be eligible) were very high across all seven regions. In other words, once the screening part of the interview was over and the eligibility of the respondent was established, a very high percentage of those respondents actually completed the rest of the interview. It may be noted the number of completed interviews by region as shown in Table B is not the same as the number of completes by region presented in Table 1. In the response rate report, the region is based on the county the corresponding telephone number was sampled from and so it was based on the telephone exchange information. However, the region a respondent belonged to was determined based on the self-reported county. Most of the times, these two procedures lead to the same county/city. Some difference is observed in Regions 6 and 7 because of their proximity to each other. Quite a few respondents sampled from Region 7 were actually found to be in Region 6 based on their self-reported county/city.

Telephone Number Final Status Definition of Terms
Used - The number of telephone numbers that were used in the sample design.
Completes - Completed interviews.
Break - Off Screening Complete - Any suspended interview with a soft, hard, or second refusal and when it was suspended the respondent had answered all the screening questions.
Break-Off Screening Incomplete - Any suspended interview with a soft, hard, or second refusal and when it was suspended the respondent had started the survey but had not answered all the screening questions.
Quota Filled - These are mostly respondent determined quota-fills. In other words, the respondent answers one or more questions that determine which group, market, quota, etc. they belong to and that quota is filled.
Failed Screener - Any respondent who fails the screener questions and is not qualified to continue the survey. This category does not include any respondents who fail to qualify by answering a screener question "Don't Know" or refusing to answer a screener question. These respondents are put in the unknown qualifying status category.
Screener DK/Refused - Any respondent who is disqualified for the study because they responded to screener questions with "Don't Know" or "Refused." The key is that we do not know whether they qualify or not. Therefore, they are not in the failed screener category.
Callback Screener Complete - Any respondent status that ends up as a callback but has answered the screener questions.
Callback Screener Incomplete - Any respondent status that ends up as a callback but has not answered all the screener questions.
Other - Any terminate due to respondent illness, respondent dead or death in family, no eligible respondent available during the term of this study, corporate referral (executive only), or other types of terminates (for unusual circumstances such as respondents that, sadly, do not have the intelligence to complete the survey in a useful manner).
Refused - Any non-suspended soft, hard, or second refusal. The refused category is comprised of respondents that have refused at the beginning of the study. We call back soft refusals after an appropriate amount of time. However, when the study is over any records remaining in the soft refusal status must fall in this category.

Telephone Number Final Status **Definition of Terms (Continued)**
Deafness/Language Problem - Any terminate because of a language or hearing barrier plus any non-English interviewer requested.
Non-Target - Any respondent or phone record that does not qualify because we are targeting the residential group.
Busy - Any record showing no human contact and the last status was a busy.
Answering Machine - Any record showing no human contact and the last was an answering machine.
No Answer - Any record showing no human contact and the last status was a no answer.
Non-Working/Disconnect - Any non-working phone number.
Working = Used - (Non-Residential/Non-Business + Non-Working/Disconnect). The working rate which is the ratio between the number of used pieces of sample and the number of working pieces of sample. Busies and no answers are removed from the numerator and denominator of the formula because we do not know whether they are working or not. The working rate is related to how many disconnects and business numbers are in the sample.
Contacted = Working - (Busy + Answering Machine + No Answer)
Cooperated = Contacted-Sum (Break off Screening Incomplete, Callback Screener Incomplete, Refused, Unknown Qualifying Status)
Attempted = Cooperated - Quota Filled
Screened = Attempted - Other - Deafness or Language Problem
Eligible = Screened - Failed Screener
Incidence Rate = Eligible/(Eligible + Failed Screener)
Refusal Rate = Refusal/Contacted
Working Rate = (Working - Busy - No Answers)/(Used - Busy - No Answers)
Gallup Contact Rate = (Contacted/Working)

Telephone Number Final Status **Definition of Terms (Continued)**
Gallup Cooperation Rate = (Cooperated/Contacted)
Gallup Completion Rate = (Completed/Eligible)
Gallup Response Rate = Contact Rate X Cooperation Rate X Completion Rate
Presumed Working = (Busy + No Answer) ***** (Working Rate)
Presumed Eligible = Presumed Working + Break off Screening Incomplete + Callback Screening Incomplete + Other + Refused + Deafness or Language Problem + Answering Machine + Unknown Qualifying Status) ***** Incidence Rate
CASRO Response Rate = Completed/(Eligible + Presumed Eligible)

Final Response Rate Report

	NUMBERS USED	COMPLETES (1)	BREAKOFF SCREENING COMPLETE (3)	BREAKOFF SCREENING INCOMPLETE (4)	QUOTA FILL (5)	SCRN FAILURE (6)	SCRNER DK/RF (17)	CALLBACK SCREENING COMPLETE (7)	CALLBACK SCREENING INCOMPLETE (8)	OTHER (9)	REFUSAL (10)	DEAFNESS/LANGUAGE BARRIER (11)	NON-TARGET (12)	BUSY (13)	ANSWERING MACHINE (14)	NO ANSWER (15)	DISCONNECT (16)	UNDEFINED STATUS ERROR
TOTAL	46234	4698	51	536	0	7681	1606	50	3569	1690	2286	482	7926	832	1515	5047	8265	0

---------- FORMULAS ----------

USED -12 -16 ___	WORK -13 -14 -15 ___ -17	CONT -4 -8 -10	COOP -5 __	ATTM -9 -11 ___	SCRN -6 __	ELIG -2 -3 -7 __	ELIG ---- SCRN	10 ---- CONT	(WORK - (13+15)) ------ (USED - (13+15))	CONT ---- WORK	COOP ---- CONT	COMP ---- ELIG	CN_RT x CP_RT x CM_RT

	WORKING NUMBERS (WORK)	CONTACTED (CONT)	COOPERATED (COOP)	ATTEMPTED (ATTM)	SCREENED (SCRN)	ELIGIBLE (ELIG)	COMPLETES (COMP)	INCIDENCE RATE (IN_RT)	REFUSAL RATE (RF_RT)	WORKING RATE (WK_RT)	CONTACT RATE (CN_RT)	COOPERATION RATE (CP_RT)	COMPLETION RATE (CM_RT)	RESPONSE RATE	CASRO RESPONSE RATE
TOTAL	30043	22649	14652	14652	12480	4799	4698	38.5%	10.1%	59.9%	75.4%	64.7%	97.9%	47.7%	44.1%

	NUMBERS USED	COMPLETES (1)	BREAKOFF SCREENING COMPLETE (3)	BREAKOFF SCREENING INCOMPLETE (4)	QUOTA FILL (5)	SCRN FAILURE (6)	SCRNER DK/RF (17)	CALLBACK SCREENING COMPLETE (7)	CALLBACK SCREENING INCOMPLETE (8)	OTHER (9)	REFUSAL (10)	DEAFNESS/ LANGUAGE BARRIER (11)	NON-TARGET (12)	BUSY (13)	ANSWERING MACHINE (14)	NO ANSWER (15)	DISCONNECT (16)	UNDEFINED STATUS ERROR
TOTAL	46234	4698	51	536	0	7681	1606	50	3569	1690	2286	482	7926	832	1515	5047	8265	0
01	5720	690	5	55	0	1102	169	5	359	121	233	38	797	84	109	557	1396	0
02	5975	614	11	58	0	1000	184	5	389	164	253	22	853	117	262	749	1294	0
03	5714	637	5	72	0	1031	183	6	355	177	228	67	976	110	160	539	1168	0
04	5632	727	6	67	0	1007	214	4	408	178	296	33	904	105	152	559	972	0
05	5490	632	4	88	0	1059	250	8	411	228	304	41	864	91	134	454	922	0
06	9435	850	15	120	0	1505	321	11	808	398	536	125	2066	204	311	1029	1136	0
07	8268	548	5	76	0	977	285	11	839	424	436	156	1466	121	387	1160	1377	0

FORMULAS

USED	WORK	CONT	COOP	ATTM	SCRN	ELIG	ELIG	10	(WORK -	CONT	COOP	COMP	CN_RT
-12	-13	-4	-5	-9	-6	-2	----	----	(13+15))	----	----	----	x
-16	-14	-8	__	-11	__	-3	SCRN	CONT	------	WORK	CONT	ELIG	CP_RT
___	-15	-10		___		-7			(USED -				x
	___	-17				__			(13+15))				CM_RT

	WORKING NUMBERS (WORK)	CONTACTED (CONT)	COOPERATED (COOP)	ATTEMPTED (ATTM)	SCREENED (SCRN)	ELIGIBLE (ELIG)	COMPLETES (COMP)	INCIDENCE RATE (IN_RT)	REFUSAL RATE (RF_RT)	WORKING RATE (WK_RT)	CONTACT RATE (CN_RT)	COOPERATION RATE (CP_RT)	COMPLETION RATE (CM_RT)	RESPONSE RATE	CASRO RESPONSE RATE
TOTAL	30043	22649	14652	14652	12480	4799	4698	38.5%	10.1%	59.9%	75.4%	64.7%	97.9%	47.7%	44.1%
01	3527	2777	1961	1961	1802	700	690	38.8%	8.4%	56.8%	78.7%	70.6%	98.6%	54.8%	54.7%
02	3828	2700	1816	1816	1630	630	614	38.7%	9.4%	58.0%	70.5%	67.3%	97.5%	46.2%	45.9%
03	3570	2761	1923	1923	1679	648	637	38.6%	8.3%	57.7%	77.3%	69.6%	98.3%	53.0%	50.1%
04	3756	2940	1955	1955	1744	737	727	42.3%	10.1%	62.2%	78.3%	66.5%	98.6%	51.3%	49.1%
05	3704	3025	1972	1972	1703	644	632	37.8%	10.0%	63.9%	81.7%	65.2%	98.1%	52.2%	47.7%
06	6233	4689	2904	2904	2381	876	850	36.8%	11.4%	61.0%	75.2%	61.9%	97.0%	45.2%	40.2%
07	5425	3757	2121	2121	1541	564	548	36.6%	11.6%	59.3%	69.3%	56.5%	97.2%	38.0%	30.5%

Appendix B

Glossary
Format and Organization of the Population Estimates Tables
Population Estimates Tables
Figures

Glossary

Alcohol - Any type of alcoholic drink, such as a glass of wine, a can or bottle or beer, a mixed drink, or a shot of hard liquor.

Dependence/Abuse Diagnoses - Diagnoses defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria (3). Persons classified as dependent reported three or more substance-related problems or symptoms from a list of nine in a 12-month period; persons classified as abusers reported one or two symptoms from this list in a 12-month period. An individual's need for treatment was operationalized as having a DSM-IV diagnosis of dependence or abuse.

Drugs - Non-medical use of drugs, e.g., a drug not prescribed by a doctor or in a way a doctor did not intend, like to get high or see what it feels like. These included the following as described to the respondent:

Marijuana - marijuana or hashish.
Hallucinogens - LSD, PCP, Ecstasy.
Stimulants - uppers, speed, Methamphetamine, ice, cat, Methcathinone, Ritalin and Preludin.
Cocaine - cocaine or crack.
Heroin - heroin only.
Opiates (other than heroin) - Darvon, Percodan, Demerol, Dilaudid, Codeine, Morphine, Methadone.
Sedatives - tranquilizers, barbiturates, sleeping pills.
Inhalants - glue, aerosols, paint solvents, poppers and whippets.

Prevalence - The rate of all existing cases in a population during a particular time period.

Study Regions - Table 1 presents the counties included in each of the seven MDCH, MHSAS study regions. In general, Region 1 represents the Upper Peninsula of Michigan; Region 2, the northern lower peninsula; Region 3, western lower peninsula; Region 4, the central region; Region 5, eastern or "thumb" area; Region 6, southeastern Michigan excluding the City of Detroit; and Region 7, the City of Detroit.

Substance Use - Respondents were asked about the recency, frequency and amount of use of alcohol and other drugs for specific time periods. These time periods are lifetime (if ever used a particular substance), use in the past 12 months, and past 30 days. Lifetime use is primarily a measure of exposure and useful for monitoring changes in substance use patterns. Use in the past 30 days is made up of those respondents who used substances in the month prior to the interview. It is a measure of current, largely active, users. Past 12 months use is a measure of both active and intermittent users in the population.

Glossary
(Continued)

Treatment Services - These were described to the respondent as "a stay in a hospital, treatment center, or halfway house...seeing a counselor or receiving medication such as methadone as an outpatient."

Treatment Services Categories - These included the following:

> **Hospital** - Acute care; physician-directed/supervised medical care in an inpatient setting using licensed hospital beds.
>
> **Residential Detoxification** - Medically supervised care provided in a sub-acute residential setting for the purpose of managing the effects of withdrawal from alcohol or other drugs.
>
> **Outpatient** - Ambulatory, scheduled periodic therapeutic counseling provided in a clinical setting including intake assessments, individual, family, and group therapy.

Format and Organization of the Population Estimates Tables

All population estimates tables include rate estimates in percent and population estimates in thousands for the total Michigan adult population and the seven study regions. Population estimates were computed by multiplying the prevalence estimates derived from the survey by the 2000 Michigan census of adults ages 18 years and older for the total population and for each of the substate planning regions. Asterisks indicate cells where the question was not asked in the study, whereas zeroes indicate cells where no data could be obtained due to the limitations of the study sample.

To account for the complexity of the MDAPS sample design, variance estimates were computed for this report using the data analysis software package, SUDAAN[1]. The resulting variance estimates, which are approximately unbiased for sufficiently large sample sizes, were used to obtain 95 percent confidence intervals. These confidence intervals accompany every estimate and are represented by a lower and an upper confidence limit. Each estimate, therefore, has an observed estimate, a lower limit, and an upper limit. The interpretation of these estimates is that, if repeated samples of identical design are drawn from the population and the sample estimate and corresponding lower and upper confidence limits calculated for each sample, the true population value lies between the lower and upper limits, on average, in 95 of 100 samples, with the best estimate being the observed estimate.

Differences between prevalence rate estimates should be evaluated in terms of statistical significance. Statistical significance refers to the probability that a difference as large as that observed would occur due to random error in the estimates if there were no difference in the prevalence rates for the population groups being compared. Therefore, to compare one estimate with another on an identical dimension, such as substance use, the reader should determine if the range of values (e.g., the lower limit and upper limit) presented overlap. If the range of values does not overlap, then there is statistical difference in the two rates.

Estimates of less than 0.5 should be viewed with caution as they have low precision. Nonetheless, these estimates have been reported in the population estimate tables for general informational purposes and to demonstrate that information required for the fulfillment of the terms of the federal grant was obtained. Estimates based on less than five subjects are shaded. These cases should also be viewed with caution.

Substance Use Prevalence Data

MDAPS substance use prevalence data are presented in Tables 3-10 for alcohol, marijuana, hallucinogens, stimulants, cocaine/crack, heroin, other opiates, sedatives, and inhalants for the total Michigan population 18 years and older and for each of the seven study regions. Table 11 presents use rates and population estimates, excluding alcohol.

[1]Shah, B.V., Barnwell, B.G., and Bieler, G.S. *SUDAAN User's Manual, Version 6.40, Second Edition.* Research Triangle Park, NC: Research Triangle Institute (1996).

Format and Organization of the Population Estimates Tables (Continued)

Time periods of use shown in the row headings are ever used, used past 12 months, and used past 30 days. These categories are cumulative; those who have used in the past month are also included in used in past year and ever used categories. Likewise, those who have used in the past year are included in the ever-used estimates.

DSM-IV Diagnoses of Dependence and Abuse

Table 12 presents rate and population estimates of dependence and abuse of one or more substances including alcohol, marijuana, hallucinogens, cocaine/crack, heroin, and opiates other than heroin based on DSM-IV criteria for the total Michigan population and the seven study regions. Table 13 presents dependence/abuse rates and population estimates for each of the above-noted substances. Table 14 presents this information for all above-noted drugs excluding alcohol.

Met Demand for Treatment Services

Table 17 presents rate and population estimates of the general population, dependents, and abusers ever receiving treatment services and treatment in the past 12 months for alcohol or other drug use for the total Michigan adult population and for the seven study regions. (See Glossary for definition of treatment services and dependence/abuse diagnoses.)

Unmet Demand for Treatment Services and Specific Treatment Services Categories

Table 18 presents estimates of those adults who did not receive treatment in the past 12 months but perceived a need for it, would have gone and took steps to obtain it by dependence/abuse for the total Michigan population, and for the seven study regions. Table 19 presents the specific services respondents identified they would have sought in the past 12 months had they been available. (See Glossary for definition of specific treatment services categories.)

Table 1
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Study Regions by County
2000

Upper Peninsula	Northern	Western	Central	Eastern	Southeastern	Detroit
Alger	Alcona	Allegan	Calhoun	Bay	Livingston	City of Detroit
Baraga	Alpena	Barry	Clinton	Genesee	Macomb	
Chippewa	Antrim	Berrien	Eaton	Huron	Monroe	
Delta	Arenac	Branch	Gratiot	Lapeer	Oakland	
Dickinson	Benzie	Cass	Hillsdale	Saginaw	Washtenaw	
Gogebic	Charlevoix	Ionia	Ingham	St. Clair	Wayne-not Detroit	
Houghton	Cheboygan	Kalamazoo	Jackson	Sanilac		
Iron	Clare	Kent	Lenawee	Tuscola		
Keweenaw	Crawford	Montcalm	Shiawassee			
Luce	Emmet	Muskegon				
Mackinac	Gladwin	Newaygo				
Marquette	Grand Traverse	Ottawa				
Menominee	Iosco	St. Joseph				
Ontonagon	Isabella	Van Buren				
Schoolcraft	Kalkaska					
	Lake					
	Leelanau					
	Manistee					
	Mason					
	Mecosta					
	Midland					
	Missaukee					
	Montmorency					
	Oceana					
	Ogemaw					
	Osceola					
	Oscoda					
	Otsego					
	Presque Isle					
	Roscommon					
	Wexford					

Table 2
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Sample Demographics
Unweighted and Weighted
2000

Total	**N**	**Unweighted %**	**Weighted %**
	4,698	100.0	100.0

Gender	4,698	100.0	100.0
Male	1,948	41.5	47.8
Female	2,750	58.5	52.2

Race/Ethnicity	4,672	100.0	100.0
White	3,923	84.0	83.2
African-American	553	11.8	12.3
Hispanic	40	0.9	0.7
Asian	53	1.1	1.5
Native American	58	1.2	1.2
Multiracial	45	1.0	1.1

Age	4,698	100.0	100.0
18-24 years	1,002	21.3	10.7
25-34	1,154	24.6	19.5
35-45	767	16.3	23.7
46+	1,775	37.8	46.1

Table 2
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Sample Demographics
Unweighted and Weighted
(Continued)
2000

Region	4,698	100.0	100.0
Upper Peninsula	691	14.7	3.3
Northern	623	13.3	8.6
Western	643	13.7	19.4
Central	704	15.0	10.1
Eastern	636	13.5	11.3
Southeastern	934	19.9	38.0
City of Detroit	467	9.9	9.4

Education	4,684	100.0	100.0
<12th Grade	435	9.3	8.4
GED/12th	1,733	37.0	34.9
Some College	1,351	28.8	27.8
4 Year College	651	13.9	15.2
Grad./Prof.	514	11.0	13.7

Poverty Level	4,306	100.0	100.0
Above	3.780	87.8	91.0
Below	526	12.2	9.0

Table 2
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Sample Demographics
Unweighted and Weighted[1]
(Continued)
2000

Marital Status	4,686	100.0	100.0
Divorced	485	10.3	9.8
Separated	84	1.8	1.5
Widowed	379	8.1	6.7
Now married	2,215	47.3	60.5
Single	1,523	32.5	21.4

[1]The final weight assigned to any case was the product of weights generated at different stages of the weighting process. The final weight for each case corrected for unequal selection probabilities at the household level, unequal probability within the household, and post-stratification weighting to achieve targeted proportions calculated using 2000 census estimates for the State of Michigan formed by crossing levels of the variables gender, race/ethnicity, and age. The weighted sample reflects the distribution of the Michigan adult population (age 18 years and over) in terms of gender, race/ethnicity, age, and region

Table 3
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adult Michigan Population[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	94.6 (93.8-95.4)	31.7 (29.9-33.5)	5.9 (5.1-6.7)	4.8 (4.0-5.6)	7.3 (6.3-8.3)	0.6 (0.3-0.9)	2.3 (1.8-2.8)	2.9 (2.2-3.6)	1.2 (0.8-1.6)
Used Past 12 Months	70.0 (68.3-71.7)	7.0 (6.1-7.9)	0.8 (0.5-1.1)	0.4 (0.1-0.7)	0.5 (0.3-0.7)	0.0 (0.0-0.1)	0.2 (0.1-0.3)	0.8 (0.5-1.1)	0.2 (0.0-0.4)
Used Past 30 Days	55.5 (53.7-57.3)	3.8 (3.2-4.4)	0.2 (0.1-0.3)	0.1 (0.0-0.2)	0.1 (0.0-0.2)	0.0 (0.0-0.0)	0.1 (0.0-0.2)	0.2 (0.0-0.4)	0.1 (0.0-0.2)

POPULATION ESTIMATES (In Thousands)

Ever Used	7,006 (6,946-7,066)	2,344 (2,214-2,474)	435 (373-497)	356 (296-416)	537 (465-609)	46 (25-67)	166 (128-204)	218 (168-268)	87 (60-114)
Used Past 12 Months	5,181 (5,055-5,307)	516 (452-580)	56 (37-75)	30 (11-49)	34 (22-46)	2 (0-5)	18 (7-29)	61 (36-86)	13 (2-24)
Used Past 30 Days	4,110 (3,974-4,246)	279 (232-326)	14 (6-22)	10 (0-24)	7 (2-12)	1 (0-1)	5 (1-9)	15 (3-27)	6 (0-14)

[1]Ages 18 years and older (n=7,403,307)

Table 4
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults Upper Peninsula[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	96.1 (94.6-97.6)	27.8 (23.9-31.7)	5.9 (3.6-8.2)	4.7 (2.5-6.9)	5.6 (3.6-7.6)	0.5 (0.0-1.2)	2.2 (0.9-3.5)	2.5 (0.8-4.2)	1.4 (0.2-2.6)
Used Past 12 Months	70.4 (66.5-74.3)	4.2 (2.7-5.7)	0.4 (0.0-0.8)	0.2 (0.0-0.4)	0.2 (0.0-0.5)	0.0	0.2 (0.0-0.5)	0.2 (0.0-0.4)	0.0
Used Past 30 Days	56.9 (52.6-61.2)	1.9 (1.0-2.8)	0.1 (0.0-0.2)	0.1 (0.0-0.2)	0.0	0.0	0.0	0.0	0.0

POPULATION ESTIMATES (In Thousands)

Ever Used	233 (229-237)	67 (58-76)	14 (8-20)	11 (6-16)	13 (8-18)	1 (0.2)	5 (2-8)	6 (2-10)	3 (0-6)
Used Past 12 Months	170 (161-179)	10 (7-13)	1 (0-2)	0	1 (0-2)	0	1 (0-2)	0	0
Used Past 30 Days	138 (128-148)	5 (3-7)	0	0	0	0	0	0	0

[1]The Upper Peninsula includes populations residing in Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luca, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft Counties, ages 18 years and over (n=242,016).

Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 5
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults - Northern Michigan [1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	95.9 (94.2-97.6)	31.1 (26.9-35.3)	8.5 (5.8-11.2)	5.3 (3.2-7.4)	7.5 (5.0-10.0)	0.9 (0.1-1.7)	3.2 (1.5-4.9)	3.2 (1.6-4.8)	1.3 (0.4-2.2)
Used Past 12 Months	68.9 (64.7-73.1)	7.2 (5.0-9.4)	0.4 (0.1-0.7)	0.3 (0.0-0.6)	0.2 (0.0-0.4)	0.1 (0.0-0.2)	0.3 (0.0-0.6)	0.8 (0.1-1.5)	0.1 (0.0-0.2)
Used Past 30 Days	52.2 (47.7-56.7)	3.4 (2.1-4.7)	0.1 (0.0-0.2)	0.1 (0.0-0.3)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.7 (0.1-1.4)	0.1 (0.0-0.2)

POPULATION ESTIMATES (In Thousands)

Ever Used	612 (601-623)	197 (170-224)	54 (37-71)	34 (20-48)	48 (32-64)	6 (1-11)	20 (10-30)	21 (11-31)	8 (2-14)
Used Past 12 Months	439 (412-466)	46 (32-60)	2 (0-4)	2 (0-4)	1 (0-2)	0	2 (0-4)	5 (0-10)	0
Used Past 30 Days	333 (304-362)	22 (13-31)	0	1 (0-3)	0	0	0	4 (0-8)	0

[1] Northern Michigan includes populations residing in Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Iosco, Isabella, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Midland, Missaukee, Montmorency, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Presque Isle, Roscommon, and Wexford Counties, ages 18 years and over (n=637,865).
Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 6
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults - Western Michigan[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	95.2 (93.2-97.2)	33.0 (28.7-37.3)	5.5 (3.4-7.6)	5.9 (3.7-8.1)	7.2 (4.7-9.7)	0.5 (0.0-1.1)	2.9 (1.3-4.5)	3.2 (1.5-4.9)	1.2 (0.3-2.1)
Used Past 12 Months	73.2 (69.2-77.2)	5.5 (3.8-7.2)	0.7 (0.2-1.2)	0.9 (0.1-1.7)	0.3 (0.0-0.6)	0.0	0.3 (0.0-0.7)	1.2 (0.4-2.0)	0.1 (0.0-0.2)
Used Past 30 Days	57.8 (53.4-62.2)	3.0 (1.8-4.2)	0.3 (0.0-0.7)	0.3 (0.0-0.7)	0.1 (0.0-0.2)	0.0	0.2 (0.0-0.6)	0.5 (0.0-1.1)	0.0

POPULATION ESTIMATES (In Thousands)

Ever Used	1,365 (1,337-1,393)	472 (411-533)	78 (48-108)	84 (52-116)	103 (68-138)	6 (0-13)	41 (19-63)	46 (22-70)	17 (5-29)
Used Past 12 Months	1,048 (990-1,106)	79 (55-103)	10 (3-17)	13 (1-25)	5 (0-10)	0	4 (0-9)	17 (5-29)	1 (0-2)
Used Past 30 Days	829 (765-893)	43 (25-61)	4 (6-9)	4 (0-9)	1 (0-2)	0	3 (0-8)	7 (0-16)	0

[1]Western Michigan includes populations residing in Allegan, Barr, Berrien, Branch, Cass, Iowa, Kalamazoo, Kent, Montcalm, Muskegon, Newaygo, Ottawa, St. Joseph, and Van Buren Counties, ages 18 years and over (n=1,433,823).

Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 7
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults - Central Michigan[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	94.3 (92.4-96.2)	30.4 (26.6-34.2)	6.9 (4.9-8.9)	5.7 (3.8-7.6)	8.0 (5.8-10.2)	0.8 (0.0-1.6)	2.5 (1.3-3.7)	2.6 (1.3-3.9)	0.6 (0.0-1.2)
Used Past 12 Months	68.6 (65.0-72.8)	6.4 (4.5-8.3)	0.9 (0.3-1.5)	0.1 (0.0-0.3)	0.8 (0.1-1.5)	0.0	0.2 (0.0-0.6)	1.1 (0.2-2.0)	0.0
Used Past 30 Days	52.6 (48.4-56.8)	3.0 (1.7-4.3)	0.1 (0.0-0.2)	0.0	0.3 (0.0-0.7)	0.0 (0.0-0.0)	0.2 (0.0-0.6)	0.4 (0.0-1.0)	0.0

POPULATION ESTIMATES (In Thousands)

Ever Used	703 (689-717)	227 (198-256)	52 (37-67)	43 (29-57)	59 (43-75)	6 (0-12)	19 (10-28)	19 (9-29)	4 (0-8)
Used Past 12 Months	514 (485-543)	48 (34-62)	7 (2-12)	1 (0-3)	1 (0-2)	0	1 (0-3)	8 (1-15)	0
Used Past 30 Days	392 (361-423)	23 (13-33)	0	0	2 (0-5)	0	1 (0-3)	3 (0-7)	0

[1]Central Michigan includes populations residing in Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson, Lenawee, and Shiawassee Counties, ages 18 years and over (n=745,754).
Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 8
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults - Eastern Michigan[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	95.4 (93.5-97.3)	30.8 (26.6-35.0)	6.5 (4.4-8.6)	6.1 (3.9-8.3)	6.4 (4.4-8.4)	0.3 (0.0-0.7)	1.5 (0.7-2.3)	2.2 (1.0-3.4)	1.5 (0.5-2.5)
Used Past 12 Months	68.5 (64.2-72.8)	6.8 (4.9-8.7)	0.7 (0.2-1.2)	0.3 (0.0-0.6)	0.7 (0.2-1.2)	0.0	0.5 (0.1-0.9)	0.7 (0.0-1.4)	0.1 (0.0-0.2)
Used Past 30 Days	52.5 (47.9-57.1)	3.9 (2.4-5.4)	0.1 (0.0-0.3)	0.0	0.2 (0.0-0.6)	0.0	0.0	0.1 (0.0-0.2)	0.0

POPULATION ESTIMATES (In Thousands)

Ever Used	800 (784-816)	258 (223-293)	54 (36-72)	51 (32-70)	53 (36-70)	3 (0-7)	13 (6-20)	18 (9-27)	12 (4-20)
Used Past 12 Months	575 (539-611)	57 (41-73)	6 (2-10)	2 (0-4)	5 (1-9)	0	4 (1-7)	6 (0-12)	1 (0-2)
Used Past 30 Days	440 (402-478)	33 (20-46)	1 (0-3)	0	2 (0-6)	0	0 (0-0)	1 (0-2)	0

[1]Eastern Michigan includes populations residing in Bay, Genesee, Huron, Lapeer, Saginaw, St. Clair, Sanilac, and Tuscola Counties, ages 18 years and over (n=838,554).
Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns or conclusions involving these rates or population estimates.

Table 9
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults - Southeastern Michigan[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	95.2 (93.7-96.7)	32.4 (29.0-35.8)	5.7 (4.2-7.2)	4.1 (2.6-5.6)	8.1 (6.2-10.0)	0.2 (0.0-0-6)	1.5 (0.7-2.3)	3.4 (2.1-4.7)	1.2 (0.5-1.9)
Used Past 12 Months	73.2 (69.9-76.5)	7.7 (6.0-9.4)	1.0 (0.4-1.6)	0.4 (0.0-0.9)	0.5 (0.2-0.8)	0.0	0.2 (0.0-0.4)	0.8 (0.2-1.4)	0.4 (0.2-0.9)
Used Past 30 Days	60.2 (56.7-63.7)	4.1 (2.9-5.3)	0.3 (0.0-0.6)	0.2 (0.0-0.5)	0.0	0.0	0.1 (0.0-0.2)	0.0	0.2 (0.0-0.6)

POPULATION ESTIMATES (In Thousands)

Ever Used	2,677 (2.636-2,718)	909 (814-1,004)	160 (117-203)	114 (74-154)	227 (173-281)	6 (0-17)	41 (19-63)	96 (58-134)	33 (14-52)
Used Past 12 Months	2,057 (1,966-2,148)	215 (166-264)	29 (11-47)	11 (0-24)	13 (4-22)	0	5 (1-9)	22 (4-40)	12 (0-26)
Used Past 30 Days	1,694 (1,594-1,794)	115 (80-150)	8 (1-15)	5 (0-12)	0	0	1 (0-2)	0	5 (0-14)

[1]Southeastern Michigan includes populations residing in Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne Counties, ages 18 years and over (n=2,812,731).
Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 10
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Alcohol and Other Drug Use for Adults - City of Detroit[1]
2000

RATE ESTIMATES (Percent)

	Alcohol	Marijuana	Hallucinogens	Stimulants	Cocaine/ Crack	Heroin	Other Opiates	Sedatives	Inhalants
Ever Used	88.9 (85.7-92.1)	30.9 (25.7-36.1)	3.2 (1.2-5.2)	2.8 (1.0-4.6)	4.8 (2.5-7.1)	2.7 (0.9-4.5)	3.9 (1.6-6.2)	1.6 (0.3-2.9)	1.1 (0.0-2.3)
Used Past 12 Months	54.6 (49.3-59.9)	8.9 (5.7-12.1)	0.1 (0.0-0.3)	0.0	0.5 (0.0-1.0)	0.3 (0.0-0.7)	0.2 (0.0-0.6)	0.2 (0.0-0.5)	0.0
Used Past 30 Days	40.9 (35.6-46.2)	5.6 (2.9-8.3)	0.0	0.0	0.3 (0.0-0.7)	0.1 (0.0-0.3)	0.0	0.0	0.0

POPULATION ESTIMATES (In Thousands)

Ever Used	615 (593-637)	214 (178-250)	22 (8-36)	19 (7-31)	33 (17-49)	19 (6-32)	27 (11-43)	11 (2-20)	8 (0-16)
Used Past 12 Months	378 (341-415)	62 (40-84)	1 (0-3)	0	3 (0-6)	2 (0-4)	1 (0-3)	1 (0-2)	0
Used Past 30 Days	283 (246-320)	39 (20-58)	0	0	2 (0-5)	1 (0-3)	0	0	0

[1]The City of Detroit includes populations residing in the City of Detroit, ages 18 years and over (n=692,564).
Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 11
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Any Illicit Drug Use
for Adult Michigan Population and Study Regions[1]
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Ever Used	32.7 (30.9-34.5)	27.8 (23.9-31.7)	31.9 (27.7-36.1)	34.0 (29.7-38.3)	31.4 (27.6-35.2)	32.2 (28.0-36.4)	33.5 (30.1-36.9)	31.3 (26.1-36.5)
Used Past 12 Months	7.7 (6.8-8.6)	4.3 (2.8-5.8)	7.9 (5.6-10.2)	6.8 (4.9-8.7)	7.2 (5.1-9.3)	7.3 (5.3-9.3)	8.2 (6.4-10.0)	9.1 (5.9-12.3)
Used Past 30 Days	4.1 (3.4-4.8)	2.0 (1.0-3.0)	4.1 (2.6-5.6)	3.4 (2.0-4.8)	3.4 (2.0-4.8)	4.0 (2.5-5.5)	4.3 (3.0-5.6)	5.9 (3.1-8.7)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Ever Used	2,417 (2,287-2,547)	242 (208-276)	202 (175-229)	486 (425-547)	234 (205-263)	270 (235-305)	940 (844-1,036)	217 (181-253)
Used Past 12 Months	566 (498-634)	10 (7-13)	50 (36-64)	96 (69-123)	54 (39-69)	61 (44-78)	231 (180-282)	63 (41-85)
Used Past 30 Days	300 (251-349)	5 (3-7)	26 (17-35)	48 (29-67)	25 (14-36)	34 (21-47)	122 (86-158)	41 (22-60)

[1]Estimates of any illicit drug use include any/or non-medical use of any of the following in the prescribed time periods: marijuana, hallucinogens, stimulants, cocaine/crack, heroin or other opiates, sedatives, and inhalants.

Table 12
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Lifetime Estimates of Dependence and Abuse by Substance
for Adult Michigan Population and Study Regions [1]
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Alcohol Dependence	5.3 (4.5-6.1)	6.9 (4.7-9.1)	6.3 (4.2-8.4)	7.5 (5.0-10.0)	6.3 (4.3-8.3)	4.3 (2.6-6.0)	4.1 (2.7-5.5)	4.0 (2.0-6.0)
Alcohol Abuse	10.7 (9.5-11.9)	14.1 (10.9-17.3)	10.5 (7.5-13.5)	10.3 (7.5-13.1)	12.2 (9.4-15.0)	11.5 (8.4-14.6)	10.4 (8.1-12.7)	8.9 (5.5-12.3)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Alcohol Dependence	392 (331-453)	17 (12-22)	40 (26-54)	107 (71-143)	47 (32-62)	36 (22-50)	116 (77-155)	28 (14-42)
Alcohol Abuse	760 (675-845)	32 (25-39)	64 (46-82)	140 (101-179)	87 (67-107)	94 (69-119)	283 (222-344)	60 (37-83)

[1]Note: Figures with shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rate or population estimates.

Table 12
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Lifetime Estimates of Dependence and Abuse by Substance
for Adult Michigan Population and Study Regions[1]
2000
(Continued)

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Marijuana Dependence	3.5 (2.8-4.2)	3.2 (1.7-4.7)	3.2 (1.5-4.9)	3.2 (1.7-4.7)	4.3 (2.6-6.0)	4.1 (2.4-5.8)	3.5 (2.2-4.8)	3.1 (1.2-5.0)
Marijuana Abuse	1.4 (1.0-1.8)	0.8 (0.0-1.7)	1.3 (0.4-2.2)	1.6 (0.5-2.7)	1.3 (0.5-2.1)	2.1 (0.6-3.6)	1.0 (0.3-1.7)	1.6 (0.2-3.0)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Marijuana Dependence	260 (209-311)	8 (4-12)	20 (9-31)	46 (25-67)	32 (20-44)	35 (21-49)	98 (61-135)	22 (9-35)
Marijuana Abuse	100 (69-131)	2 (0-4)	8 (3-13)	23 (7-39)	10 (4-16)	18 (6-30)	29 (7-51)	11 (1-21)

[1]Note: Figures with shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rate or population estimates.

Table 12
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Lifetime Estimates of Dependence and Abuse by Substance
for Adult Michigan Population and Study Regions[1]
2000
(Continued)

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Hallucinogens Dependence	0.5 (0.2-0.8)	0.1 (0.0-0.2)	0.2 (0.0-0.5)	1.0 (0.0-2.0)	0.7 (0.1-1.3)	0.3 (0.0-0.8)	0.4 (0.0-0.8)	0.0
Hallucinogens Abuse	0.3 (0.1-0.5)	0.3 (0.0-0.7)	0.7 (0.0-1.7)	0.5 (0.0-1.0)	0.1 (0.0-0.3)	0.3 (0.0-0.7)	0.2 (0.0-0.4)	0.0

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Hallucinogens Dependence	35 (16-54)	0	2 (0-5)	15 (0-30)	5 (1-9)	3 (0-8)	10 (0-21)	0
Hallucinogens Abuse	21 (10-32)	1 (0-2)	4 (0-10)	7 (0-14)	1 (0-3)	2 (0-5)	6 (0-13)	0

[1]Note: Figures with shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rate or population estimates.

Table 12
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Lifetime Estimates of Dependence and Abuse by Substance
for Adult Michigan Population and Study Regions[1]
2000
(Continued)

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Cocaine Dependence	1.2 (0.8-1.6)	0.3 (0.0-0.9)	1.8 (0.5-3.1)	1.0 (0.0-2.0)	2.0 (0.8-3.2)	0.7 (0.0-1.4)	1.1 (0.4-1.8)	1.1 (0.2-2.0)
Cocaine Abuse	0.4 (0.1-0.7)	0.0	0.4 (0.0-0.9	0.2 (0.0-0.5)	0.6 (0.0-1.2)	0.3 (0.0-0.6)	0.4 (0.0-0.9)	0.8 (0.0-1.9)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Cocaine Dependence	87 (59-115)	1 (0-3)	11 (3-19)	14 (0.28)	15 (6-24)	6 (0-12)	32 (10-54)	8 (1-15)
Cocaine Abuse	28 (10-46)	0	2 (0-5)	2 (0-5)	4 (0-8)	3 (0-6)	11 (0-26)	5 (0-12)

[1]Note: Figures with shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rate or population estimates.

Table 12
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Lifetime Estimates of Dependence and Abuse by Substance
for Adult Michigan Population and Study Regions[1]
2000
(Continued)

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Heroin and Other Opiates Dependence	0.3 (0.1-0.5)	0.1 (0.0-0.2)	0.4 (0.0-0.9)	0.3 (0.0-0.6)	0.3 (0.0-0.8)	0.1 (0.0-0.3)	0.0	1.2 (0.0-2.4)
Heroin and Other Opiates Abuse	0.2 (0.0-0.4)	0.0	0.0	0.2 (0.0-0.6)	0.4 (0.0-0.9)	0.2 (0.0-0.5)	0.2 (0.0-0.6)	0.0

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Heroin and Other Opiates Dependence	18 (9-27)	0	2 (0-5)	5 (0-11)	2 (0-5)	1 (0-3)	0	8 (0-16)
Heroin and Other Opiates Abuse	13 (2-24)	0	0	3 (0-8)	3 (0-7)	2 (0-5)	6 (0-18)	0

[1]Note: Figures with shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rate or population estimates.

Table 13
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Dependence and Abuse
for Adult Michigan Population and Study Regions [1]
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	Southeastern	City of Detroit
Dependence	8.3 (7.3-9.3)	9.0 (6.5-11.5)	8.5 (5.9-11.1)	9.3 (6.7-11.9)	9.7 (7.3-12.1)	8.3 (5.9-10.7)	7.4 (5.5-9.3)	7.4 (4.6-10.2)
Abuse	9.6 (8.5-10.7)	12.5 (9.8-16.0)	9.6 (6.8-12.4)	9.5 (6.8-12.2)	9.9 (7.3-12.5)	10.0 (7.1-12.9)	9.6 (7.4-11.8)	7.8 (4.6-11.0)
No Diagnosis	82.2 (80.8-83.6)	78.1 (74.4-81.8)	81.9 (78.3-85.5)	81.2 (77.6-84.8)	80.4 (77.1-83.7)	81.7 (78.2-85.2)	83.0 (80.3-85.7)	84.8 (80.8-88.8)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	Southeastern	City of Detroit
Dependence	611 (537-685)	22 (16-28)	54 (38-70)	133 (95-171)	73 (55-91)	70 (50-90)	209 (156-262)	51 (32-70)
Abuse	708 (624-792)	31 (24-38)	62 (44-80)	136 (98-174)	73 (54-92)	84 (60-108)	269 (209-329)	54 (32-76)
No Diagnosis	6,078 (5,972-6,184)	189 (180-198)	522 (499-545)	1,164 (113-1,215)	598 (573-623)	685 (655-715)	2,332 (2,255-2,409)	587 (559-615)

[1]Estimates of dependence and abuse are based on DSM-IV criteria and include dependence or abuse of one or more substances. The total Michigan population includes ages 18 years and over (n=7,403,307). The Upper Peninsula includes populations residing in Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft Counties, ages 18 years and over (n=242,016). Northern Michigan includes populations residing in Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Iosco, Isabella, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Midland, Missaukee, Montmorency, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Presque Isle, Roscommon, and Wexford Counties, ages 18 years and over (n=637,865). Western Michigan includes populations residing in Allegan, Barry, Berrien, Branch, Cass, Ionia, Kalamazoo, Kent, Montcalm, Muskegon, Newaygo, Ottawa, St. Joseph, and Van Buren Counties, ages 18 and over (n=1,433,823). Central Michigan includes populations residing in Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson, Lenawee, and Shiawassee Counties, ages 18 years and over (n=745,754). Eastern Michigan includes populations residing in Bay, Genesee, Huron, Lapeer, Saginaw, St. Clair, Sanilac, and Tuscola Counties, ages 18 years and over (n=838,554). Southeastern Michigan includes populations residing in Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne Counties, ages 18 years and over (n=2,812,731). Wayne County does not include the City of Detroit. The City of Detroit includes populations residing in the City of Detroit, ages 18 years and over (n=692,564). Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns or conclusions involving these rates or population estimates.

Table 14
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Dependence and Abuse of Illicit Drugs
for Adult Michigan Population and Study Regions [1]
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	Southeastern	City of Detroit
Dependence	4.4 (3.6-5.2)	3.6 (1.9-5.3)	4.1 (2.2-6.0)	3.5 (2.0-5.0)	5.5 (3.6-7.4)	4.9 (3.1-6.7)	4.6 (3.1-6.1)	4.4 (2.2-6.6)
Abuse	1.2 (0.8-1.6)	1.0 (0.1-1.9)	1.2 (0.3-2.1)	1.7 (0.6-2.8)	1.0 (0.3-1.7)	1.9 (0.5-3.3)	0.8 (0.2-1.4)	1.9 (0.4-3.4)
No Diagnosis	94.3 (93.5-95.1)	95.4 (93.5-97.3)	94.7 (92.6-96.8)	94.8 (92.9-96.7)	93.5 (91.5-95.5)	93.2 (90.9-95.5)	94.6 (93.0-96.2)	93.7 (91.0-96.4)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	Southeastern	City of Detroit
Dependence	326 (269-383)	9 (5-13)	26 (14-38)	50 (28-72)	41 (27-55)	41 (26-56)	130 (87-173)	30 (15-45)
Abuse	92 (62-122)	2 (0-4)	8 (2-14)	24 (8-40)	7 (2-12)	16 (4-28)	21 (6-36)	13 (3-23)
No Diagnosis	6,950 (6,888-7,012)	230 (225-235)	603 (590-616)	1,349 (1,322-1,376)	696 (681-711)	780 (761-799)	2,648 (2,602-2,694)	644 (626-662)

[1]Estimates of dependence and abuse are based on DSM-IV criteria and include dependence or abuse of one or more substances. The total Michigan population includes ages 18 years and over (n=7,403,307). The Upper Peninsula includes populations residing in Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft Counties, ages 18 years and over (n=242,016). Northern Michigan includes populations residing in Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Iosco, Isabella, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Midland, Missaukee, Montmorency, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Presque Isle, Roscommon, and Wexford Counties, ages 18 years and over (n=637,865). Western Michigan includes populations residing in Allegan, Barry, Berrien, Branch, Cass, Ionia, Kalamazoo, Kent, Montcalm, Muskegon, Newaygo, Ottawa, St. Joseph, and Van Buren Counties, ages 18 and over (n=1,433,823). Central Michigan includes populations residing in Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson, Lenawee, and Shiawassee Counties, ages 18 years and over (n=745,754). Eastern Michigan includes populations residing in Bay, Genesee, Huron, Lapeer, Saginaw, St. Clair, Sanilac, and Tuscola Counties, ages 18 years and over (n=838,554). Southeastern Michigan includes populations residing in Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne Counties, ages 18 years and over (n=2,812,731). Wayne County does not include the City of Detroit. The City of Detroit includes populations residing in the City of Detroit, ages 18 years and over (n=692,564). Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Table 15
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

DSM-IV Symptoms Reported
by Substance, Dependence and Abuse
for Adult Michigan Population [1]
2000

	Total		Dependence		Abuse		No diagnosis but used substances	
Symptom (All substances)	N[2]	%	N[2]	%	N[2]	%	N[2]	%
Failed obligations	31	100.0	16	52.1	15	48.0	0	0.0
Hazardous situations	132	100.0	24	18.4	107	80.8	1	0.8
Legal trouble	3	100.0	1	31.7	2	68.3	0	0.0
Interpersonal problems	27	100.0	9	34.1	16	62.0	1	3.9
Tolerance	1,127	100.0	463	41.0	257	22.8	407	36.1
Used more/longer	2,113	100.0	541	25.6	543	25.7	1,029	48.7
Tried to quit	585	100.0	295	50.4	75	12.8	216	36.8
Spent much time on substance	618	100.0	399	64.6	146	23.7	73	11.7
Cut down on liked activities	422	100.0	284	67.3	78	18.5	60	14.2
Continued use despite medical or psychological problems	692	100.0	410	59.2	114	16.5	168	24.2
Withdrawal	207	100.0	163	78.7	18	8.7	26	12.6

[1]Estimates of dependence and abuse are based on DSM-IV criteria and include dependence or abuse of one or more substances. The total Michigan population includes ages 18 years and over (n=7,403,307).

Table 15
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

DSM-IV Symptoms Reported
by Substance, Dependence and Abuse
for Adult Michigan Population [1]
(Continued)
2000

	Total		Dependence		Abuse		No diagnosis but used substances	
Symptom (Alcohol only)	N[3]	%	N[2]	%	N[2]	%	N[2]	%
Failed obligations	25	100.0	0	0.0	25	100.0	0	0.0
Hazardous situations	118	100.0	0	0.0	118	100.0	0	0.0
Legal trouble	2	100.0	0	0.0	2	100.0	0	0.0
Interpersonal problems	18	100.0	0	0.0	18	100.0	0	0.0
Tolerance	995	100.0	338	34.0	273	27.4	385	38.7
Use more/longer	2,058	100.0	384	18.6	585	28.4	1,090	52.9
Tried to quit	343	100.0	126	36.7	52	15.0	166	48.2
Spent much time on substance	507	100.0	284	56.1	160	31.6	62	12.3
Cut down on liked activities	357	100.0	214	59.9	84	23.5	60	16.7
Continued to use despite medical or psychological problems	513	100.0	258	50.2	130	25.4	125	24.4
Withdrawal	143	100.0	111	77.7	17	12.0	15	10.3

[1]Estimates of dependence and abuse are based on DSM-IV criteria and include dependence or abuse of one or more substances. The total Michigan population includes ages 18 years and over (n=7,403,307).

Table 15
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
DSM-IV Symptoms Reported
by Substance, Dependence and Abuse
for Adult Michigan Population [1]
(Continued)
2000

	Total		Dependence		Abuse		No diagnosis but used substances	
Symptom (Illicit Drugs)	N[4]	%	N[2]	%	N[2]	%	N[2]	%
Failed obligations	6	100.0	3	43.8	4	56.2	0	0.0
Hazardous situations	15	100.0	2	10.8	12	82.2	1	7.1
Legal trouble	1	100.0	1	100.0	0	0.0	0	0.0
Interpersonal problems	9	100.0	1	15.5	6	72.8	1	11.8
Tolerance	274	100.0	168	61.2	21	7.5	86	31.2
Use more/longer	258	100.0	167	64.9	20	7.6	71	27.5
Tried to quit	305	100.0	173	56.7	28	9.3	104	34.1
Spent much time on substance	199	100.0	152	76.6	10	4.9	37	18.5
Cut down on liked activities	136	100.0	115	84.4	10	7.5	11	8.2
Continued to use despite medical or psychological problems	317	100.0	185	58.5	26	8.2	105	33.3
Withdrawal	100	100.0	78	78.4	6	6.4	15	15.2

[1]Estimates of dependence and abuse are based on DSM-IV criteria and include dependence or abuse of one or more substances. The total Michigan population includes ages 18 years and over (n=7,403,307).

Table 16
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Selected Characteristics of Adult Population Reporting No Lifetime Substance Use, Use but No Diagnosis and in Need of Substance Abuse Treatment[1] by Substance
2000

Alcohol	No Use Lifetime (%)	Use but No Diagnosis (%)	Abuse (%)	Dependence (%)
Gender				
Male	46.0	44.5	70.5	77.9
Female	54.0	55.5	29.5	22.1
Age				
18-24	15.9	10.5	7.2	19.1
25-34	22.2	18.5	24.5	22.0
35-44	20.6	23.2	30.4	19.8
45+	41.4	47.9	37.9	39.1
Race/Ethnicity				
White	74.9	81.9	89.4	85.1
African-American	15.5	12.5	7.5	11.9
Hispanic	1.8	2.0	1.7	0.8
Asian	3.8	1.5	0.0	0.0
Native American	1.1	1.2	1.2	0.3
Eskimo/ Aleut	0.0	0.1	0.0	0.0
Multiracial	2.8	0.8	0.2	1.9
Region				
Upper Peninsula	3.2	3.1	4.3	3.8
Northern	7.8	8.7	8.5	11.5
Western	21.9	19.2	18.4	22.2
Central	11.2	9.7	11.4	11.5
Eastern	8.7	11.4	12.4	13.8
Southeastern	32.8	38.9	37.2	29.7
City of Detroit	14.4	9.0	7.9	7.5
Marital Status				
Married	56.9	61.4	58.7	53.8
Divorced/Separated	8.9	10.7	16.8	18.0
Widowed	6.9	7.5	1.7	1.0
Single/Never Married	27.3	20.5	22.8	27.2
Education				
< High School	15.7	9.7	6.2	16.2
High School	34.1	33.4	31.3	39.1
>High School	50.2	56.9	62.5	44.8
Poverty Level				
Below	15.7	8.6	5.8	13.9
Above	84.3	91.4	94.2	86.1
Employment Status				
Employed	62.3	66.5	81.6	79.5
Not employed	37.7	33.5	18.4	20.5
Legal Status				
Arrested in the past year	0.3	0.9	0.5	8.1
None	99.7	99.1	99.5	91.9
Tobacco Use (Current)				
Yes	16.5	21.5	34.2	47.5
No	83.5	78.6	65.8	52.5

[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance dependence or abuse.

Table 16
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Selected Characteristics of Adult Population Reporting No Lifetime Substance Use, Use but No Diagnosis and in Need of Substance Abuse Treatment[1] by Substance
(Continued)
2000

Illicit Drugs	No Use Lifetime (%)	Use but No Diagnosis (%)	Abuse (%)	Dependence (%)
Gender	43.9	54.1		
Male	56.2	45.9	65.3	64.7
Female			34.7	35.3
Age	9.3	12.9		
18-24	17.8	23.4	14.1	18.1
25-34	17.0	36.7	19.4	20.8
35-44	55.8	27.0	27.6	42.9
45+			38.9	18.1
Race/Ethnicity				
White	81.9	83.0	89.4	79.3
African-American	12.3	12.0	9.3	14.3
Hispanic	2.0	1.8	0.6	1.7
Asian	1.8	0.8	0.0	2.2
Native American	1.0	1.8	0.8	1.4
Eskimo/ Aleut	0.1	0.0	0.0	0.0
Multiracial	1.0	0.7	0.0	1.1
Region				
Upper Peninsula	3.5	2.8	2.6	2.7
Northern	8.8	8.4	8.3	8.0
Western	19.0	20.6	26.2	15.2
Central	10.3	9.2	8.1	12.4
Eastern	11.4	10.6	17.4	12.7
Southeastern	37.5	39.7	23.4	39.7
City of Detroit	9.6	8.7	14.0	9.3
Marital Status				
Married	62.7	57.4	57.1	48.3
Divorced/Separated	9.7	14.4	13.3	15.6
Widowed	9.5	0.9	1.8	0.6
Single/Never Married	18.0	27.3	27.8	35.5
Education				
< High School	10.7	8.1	8.7	10.9
High School	34.4	31.6	27.2	28.5
>High School	54.8	60.3	64.1	60.7
Poverty Level				
Below	9.6	7.4	6.8	11.2
Above	90.5	92.6	93.2	88.9
Employment Status				
Employed	60.0	83.8	88.9	83.5
Unemployed	40.0	16.2	11.1	16.5
Legal Status				
Arrested in the past year	0.4	1.7	0.8	3.1
None	99.6	98.3	99.2	96.9
Tobacco Use (Current)				
Yes	15.0	37.7	29.9	46.7
No	85.0	62.3	70.1	53.3

[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance dependence or abuse.

Table 16
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Selected Characteristics of Adult Population Reporting No Lifetime Substance Use, Use but No Diagnosis and in Need of Substance Abuse Treatment[1] by Substance
(Continued)
2000

Any Substance	No Use Lifetime (%)	Use but No Diagnosis (%)	Abuse (%)	Dependence (%)
Gender				
Male	34.6	44.0	69.9	66.5
Female	65.4	56.0	30.2	33.5
Age				
18-24	19.4	10.1	6.7	15.4
25-34	20.0	18.6	22.9	23.4
35-45	10.7	22.7	29.7	34.0
45+	50.0	48.6	40.7	27.2
Race/Ethnicity				
White	65.3	82.2	89.1	84.8
African-American	21.8	12.3	7.9	10.4
Hispanic	2.3	2.0	1.7	1.4
Asian	5.6	1.4	0.0	1.6
Native American	1.4	1.3	1.1	0.8
Eskimo/ Aleut	0.0	0.1	0.0	0.0
Multiracial	3.7	0.8	0.2	1.0
Region				
Upper Peninsula	2.4	3.2	4.4	3.6
Northern	6.6	8.7	8.7	8.8
Western	17.2	19.3	19.2	21.8
Central	10.7	9.8	10.4	11.9
Eastern	9.6	11.4	11.8	11.4
Southeastern	34.0	38.7	37.9	34.2
City of Detroit	19.4	9.0	7.7	8.4
Marital Status				
Married	57.2	61.8	60.7	51.2
Divorced/Separated	4.9	10.6	16.2	16.7
Widowed	10.7	7.7	1.8	1.1
Never Married	27.3	20.0	21.3	31.1
Education				
< High School	20.0	9.6	6.9	11.1
High School	39.2	33.6	30.5	30.7
>High School	40.7	56.9	62.6	58.2
Poverty Level				
Below	20.6	8.6	5.2	10.5
Above	79.4	91.4	94.8	89.5
Employment Status				
Employed	52.8	66.1	80.9	79.5
Unemployed	47.2	33.9	19.1	20.5
Legal Status				
Arrested in the past year	0.0	0.8	0.5	3.0
None	100.0	99.2	99.6	97.0
Tobacco Use (Current)				
Yes	3.2	20.6	33.8	42.4
No	96.8	79.4	66.2	57.6

[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance dependence or abuse.

Table 17
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Met Demand for Treatment Services
by Dependence and Abuse and
for Adult Michigan Population and Study Regions
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Ever Received Treatment	4.7 (3.9-5.5)	6.6 (4.4-8.8)	5.7 (3.6-7.8)	4.0 (2.1-5.9)	5.0 (3.1-6.9)	4.2 (2.4-6.0)	4.3 (2.8-5.8)	7.2 (4.1-10.3)
Ever Received Treatment: Dependence	29.3 (23.6-35.0)	41.3 (27.1-55.5)	36.9 (22.2-51.6)	23.1 (10.4-35.8)	25.7 (14.0-37.4)	29.0 (15.0-43.0)	27.9 (16.3-39.5)	42.7 (23.2-62.2)
Ever Received Treatment: Abuse	12.6 (8.5-16.7)	12.7 (4.2-21.2)	16.4 (4.4-28.4)	5.1 (0.0-10.2)	15.4 (5.2-25.6)	5.0 (0.0-11.5)	12.3 (4.3-20.3)	36.9 (16.2-.57.6)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Ever Received Treatment	332 (275-389)	15 (10-20)	35 (22-48)	55 (29-81)	35 (22-48)	33 (19-47)	114 (75-153)	44 (25-63)
Ever Received Treatment: Dependence	179 (144-214)	9 (6-12)	20 (12-28)	31 (14-48)	19 (10-28)	20 (10-30)	58 (34-82)	22 (12-32)
Ever Received Treatment: Abuse	90 (61-119)	4 (1-7)	10 (3-17)	7 (0-14)	12 (4-20)	4 (0-9)	34 (12-56)	20 (9-31)

Table 17
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Met Demand for Treatment Services
by Dependence and Abuse and
for Adult Michigan Population and Study Regions
(Continued)
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Received Treatment Past 12 Months	1.1 (0.7-1.5)	1.9 (0.8-3.0)	1.0 (0.2-1.8)	1.4 (0.2-2.6)	1.3 (0.4-2.2)	0.8 (0.2-1.4)	0.7 (0.0-1.4)	1.7 (0.2-3.2)
Received Treatment Past 12 Months: Dependence	9.3 (5.6-13.0)	12.4 (3.0-21.8)	6.8 (1.1-12.5)	13.0 (2.1-23.9)	9.4 (1.9-16.9)	9.5 (2.4-16.6)	6.1 (0.0-12.6)	13.1 (0.0-27.0)`
Received Treatment Past 12 Months: Abuse	2.1 (0.2-4.0)	2.8 (0.0-6.2)	3.0 (0.0-8.8)	0.0 (0.0-0.0)	2.8 (0.0-7.2)	0.0 (0.0-0.0)	2.4 (0.0-6.5)	7.4 (0.0-17.9)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Received Treatment Past 12 Months	74 (48-100)	4 (2-6)	6 (1-11)	19 (3-35)	9 (2-16)	6 (1-11)	19 (1-37)	10 (1-19)
Received Treatment Past 12 Months: Dependence	55 (33-77)	3 (1-5)	4 (1-7)	17 (3-31)	7 (2-13)	6 (2-10)	12 (0-25)	6 (0-12)
Received Treatment Past 12 Months: Abuse	15 (2-28)	1 (0-2)	2 (0-6)	0	2 (0-5)	0	7 (0-19)	4 (0-10)

Table 18
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Unmet Demand for Treatment Services
by Dependence and Abuse and
for Adult Michigan Population and Study Regions[1]
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Perceived Need	2.1 (1.6-2.6)	0.9 (0.2-1.6)	1.5 (0.7-2.3)	2.3 (1.0-3.6)	1.8 (0.7-2.9)	2.6 (1.3-3.9)	2.3 (1.2-3.4)	1.5 (0.4-2.6)
Did Not Receive Treatment: Perceived Need: Dependence	13.1 (8.9-17.3)	5.0 (0.0-10.6)	6.9 (1.5-12.3)	15.3 (4.3-26.3)	9.0 (2.5-15.5)	19.1 (8.7-29.5)	15.7 (6.7-24.7)	3.8 (0.0-9.3)
Did Not Receive Treatment: Perceived Need: Abuse	4.3 (1.6-7.0)	0.9 (0.0-2.7)	1.9 (0.0-4.7)	4.4 (0.0-10.3)	3.1 (0.0-7.7)	2.5 (0.0-5.5)	4.7 (0.0-10.4)	10.6 (0.0-22.7)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Perceived Need	155 (116-194)	2 (0-4)	10 (5-15)	33 (14-52)	13 (5-21)	22 (11-33)	65 (34-96)	10 (2-18)
Did Not Receive Treatment: Perceived Need: Dependence	80 (54-106)	1 (0-2)	4 (1-7)	20 (6-34)	7 (2-12)	13 (6-20)	33 (14-52)	2 (0-5)
Did Not Receive Treatment: Perceived Need: Abuse	31 (12-50)	0	1 (0-2)	6 (0-14)	2 (0-5)	2 (0-4)	13 (0-29)	6 (0-13)

[1] Footer is offered at the end of this chart.

Table 18
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Unmet Demand for Treatment Services
by Dependence and Abuse and
for Adult Michigan Population and Study Regions[1]
(Continued)
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Would Have Sought	1.1 (0.7-1.5)	0.8 (0.1-1.5)	1.1 (0.0-2.2)	1.1 (0.2-2.0)	0.9 (0.2-1.6)	1.1 (0.1-2.1)	0.7 (0.2-1.2)	2.8 (0.9-4.7)
Did Not Receive Treatment: Would Have Sought: Dependence	6.6 (3.4-9.8)	4.7 (0.0-10.0)	12.8 (0.6-25.0)	2.0 (0.0-4.4)	2.0 (0.0-4.7)	3.9 (0.0-11.3)	5.9 (0.0-12.0)	26.1 (7.4-44.8)
Did Not Receive Treatment: Would Have Sought: Abuse	1.6 (0.3-2.9)	1.2 (0.0-2.8)	0.0	1.6 (0.0-3.9)	2.0 (0.0-5.8)	3.2 (0.0-9.4)	1.4 (0.0-3.4)	2.2 (0.0-6.6)

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Would Have Sought	80 (54-106)	2 (0-4)	7 (0-14)	16 (3-29)	6 (1-11)	9 (1-17)	20 (4-36)	19 (6-32)
Did Not Receive Treatment: Would Have Sought: Dependence	40 (21-59)	1 (0-2)	7 (0-14)	3 (0-7)	1 (0-2)	3 (0-9)	12 (0-24)	13 (4-22)
Did Not Receive Treatment: Would Have Sought: Abuse	12 (3-21)	0	0	2 (0-5)	1 (0-3)	3 (0-9)	4 (0-10)	1 (0-3)

[1] Footer is offered at the end of this chart.

Table 18
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Unmet Demand for Treatment Services
by Dependence and Abuse and
for Adult Michigan Population and Study Regions[1]
(Continued)
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Took Steps	0.1 (0.0-0.2)	0.2 (0.0-0.5)	0.4 (0.0-1.0)	0.0	0.0	0.4 (0.0-1.1)	0.1 (0.0-0.3)	0.2 (0.0-0.5)
Did Not Receive Treatment: Took Steps: Dependence	1.4 (0.1-2.7)	2.5 (0.0-5.6)	3.9 (0.0-10.4)	0.0	0.0	3.9 (0.0-11.3)	1.1 (0.0-3.2)	2.6 (0.0-6.0)
Did Not Receive Treatment: Took Steps: Abuse	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Took Steps	10 (0-22)	1 (0-3)	2 (0-5)	0	0	4 (0-11)	2 (0-5)	1 (0-2)
Did Not Receive Treatment: Took Steps: Dependence	9 (1-17)	1 (0-2)	2 (0-5)	0	0	3 (0-9)	2 (0-6)	1 (0-3)
Did Not Receive Treatment: Took Steps: Abuse	0	0	0	0	0	0	0	0

[1] Footer is offered on the next page.

Treatment services were described to the respondent as "a stay in a hospital, treatment center, or halfway house...seeing a counselor or receiving medication such as methadone as an outpatient". The respondent was subsequently asked if they had ever received treatment for their alcohol or other drug use and, if yes, whether they had received treatment in the past 12 months. If the respondent stated that they had not received treatment in the past 12 months, they were asked if they thought they needed treatment. If the respondent stated that they thought they needed treatment, they were asked if they would have gone to treatment and if they, in fact, took steps to obtain treatment services. Estimates of dependence and abuse are based on DSM-IV criteria. The total Michigan population includes ages 18 years and over (n=7,403,307). The Upper Peninsula includes populations residing in Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft Counties, ages 18 years and over (n=242,016). Northern Michigan includes populations residing in Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Iosco, Isabella, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Midland, Missaukee, Montmorency, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Presque Isle, Roscommon, and Wexford Counties, ages 18 years and over (n=637,865). Western Michigan includes populations residing in Allegan, Barry, Berrien, Branch, Cass, Ionia, Kalamazoo, Kent, Montcalm, Muskegon, Newaygo, Ottawa, St. Joseph, and Van Buren Counties, ages 18 and over (n=1,433,823). Central Michigan includes populations residing in Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson, Lenawee, and Shiawassee Counties, ages 18 years and over (n=745,754). Eastern Michigan includes populations residing in Bay, Genesee, Huron, Lapeer, Saginaw, St. Clair, Sanilac, and Tuscola Counties, ages 18 years and over (n=838,554). Southeastern Michigan includes populations residing in Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne Counties, ages 18 years and over (n=2,812,731). Wayne County does not include the City of Detroit. The City of Detroit includes populations residing in the City of Detroit, ages 18 years and over (n=692,564).

Table 19
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Unmet Demand for Specific Treatment Services Categories
by Dependence and Abuse and
for Adult Michigan Population and Study Regions [1]
2000

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Wanted Hospital	0.4 (0.1-0.7)	0.6 (0.0-1.3)	0.0	0.3 (0.0-0.8)	0.7 (0.1-1.3)	0.5 (0.0-1.2)	0.3 (0.0-0.7)	1.3 (0.0-2.7)
Did Not Receive Treatment: Wanted Hospital: Dependence	3.6 (1.0-6.2)	3.3 (0.0-7.9)	0.0	0.0	2.0 (0.0-4.7)	3.9 (0.0-11.3)	3.8 (0.0-9.4)	17.7 (1.2-34.2)
Did Not Receive Treatment: Wanted Hospital: Abuse	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Wanted Hospital	31 (11-51)	1 (0-2)	0	4 (0-11)	5 (1-9)	4 (0-9)	8 (0-19)	9 (0-18)
Did Not Receive Treatment: Wanted Hospital: Dependence	22 (6-38)	1 (0-2)	0	0	1 (0-2)	3 (0-9)	8 (0-20)	9 (1-17)
Did Not ReceiveTreatment: Wanted Hospital: Abuse	0	0	0	0	0	0	0	0

[1] Footer is offered at the end of this chart.

Table 19
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Unmet Demand for Specific Treatment Services Categories
by Dependence and Abuse and
for Adult Michigan Population and Study Regions[1]
2000
(Continued)

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Wanted Residential Detox	0.5 (0.3-0.7)	0.3 (0.0-0.7)	0.7 (0.0-1.6)	0.7 (0.0-1.5)	0.6 (0.0-1.2)	0.1 (0.0-0.2)	0.2 (0.0-0.5)	1.1 (0.0-2.4)
Did Not Receive Treatment: Wanted Residential Detox: Dependence	2.5 (0.7-4.3)	3.3 (0.0-7.9)	6.3 (0.0-16.2)	0.0	2.0 (0.0-4.7)	0.0	0.8 (0.0-2.3)	15.4 (0.0-30.9)
Did Not Receive Treatment: Wanted Residential Detox: Abuse	0.6 (0.0-1.4)	0.0	0.0	0.0	2.0 (0.0-5.8)	0.0	1.0 (0.0-2.8)	0.0

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Wanted Residential Detox	34 (18-50)	1 (0-2)	4 (0-9)	10 (0-21)	4 (0-8)	0	7 (0-17)	8 (0-17)
Did Not Receive Treatment: Wanted Residential Detox: Dependence	15 (4-26)	1 (0-2)	3 (0-8)	0	1 (0-2)	0	2 (0-6)	8 (0-16)
Did Not ReceiveTreatment: Wanted Residential Detox: Abuse	4 (0-9)	0	0	0	1 (0-3)	0	3 (0-9)	0

[1] Footer is offered at the end of this chart.

Table 19
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)

Unmet Demand for Specific Treatment Services Categories
by Dependence and Abuse and
for Adult Michigan Population and Study Regions [1]
2000
(Continued)

RATE ESTIMATES (Percent)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Wanted Outpatient	0.5 (0.2-0.8)	0.3 (0.0-0.7)	0.7 (0.0-1.6)	0.4 (0.0-1.0)	0.7 (0.1-1.3)	0.4 (0.0-1.0)	0.5 (0.0-1.0)	0.9 (0.0-2.1)
Did Not Receive Treatment: Wanted Outpatient: Dependence	3.7 (1.1-6.3)	3.3 (0.0-7.9)	6.3 (0.0-16.2)	0.0	2.0 (0.0-4.7)	3.9 (0.0-11.3)	4.6 (0.0-10.4)	9.1 (0.0-22.6)
Did Not Receive Treatment: Wanted Outpatient: Abuse	0.6 (0.0-1.4)	0.0	0.0	0.0	2.0 (0.0-5.8)	0.0	1.0 (0.0-2.8)	0.0

POPULATION ESTIMATES (In Thousands)

	Total	Upper Peninsula	Northern	Western	Central	Eastern	South-Eastern	City of Detroit
Did Not Receive Treatment: Wanted Outpatient	40 (18-62)	1 (0-2)	4 (0-9)	6 (0-15)	5 (1-9)	3 (0-8)	15 (0-30)	6 (0-14)
Did Not Receive Treatment: Wanted Outpatient: Dependence	22 (6-38)	1 (0-2)	3 (0-8)	0	1 (0-2)	3 (0-9)	10 (0-23)	5 (0-12)
Did Not ReceiveTreatment: Wanted Outpatient: Abuse	4 (0-9)	0	0	0	1 (0-3)	0	3 (0-9)	0

[1] Footer is offered on the next page.

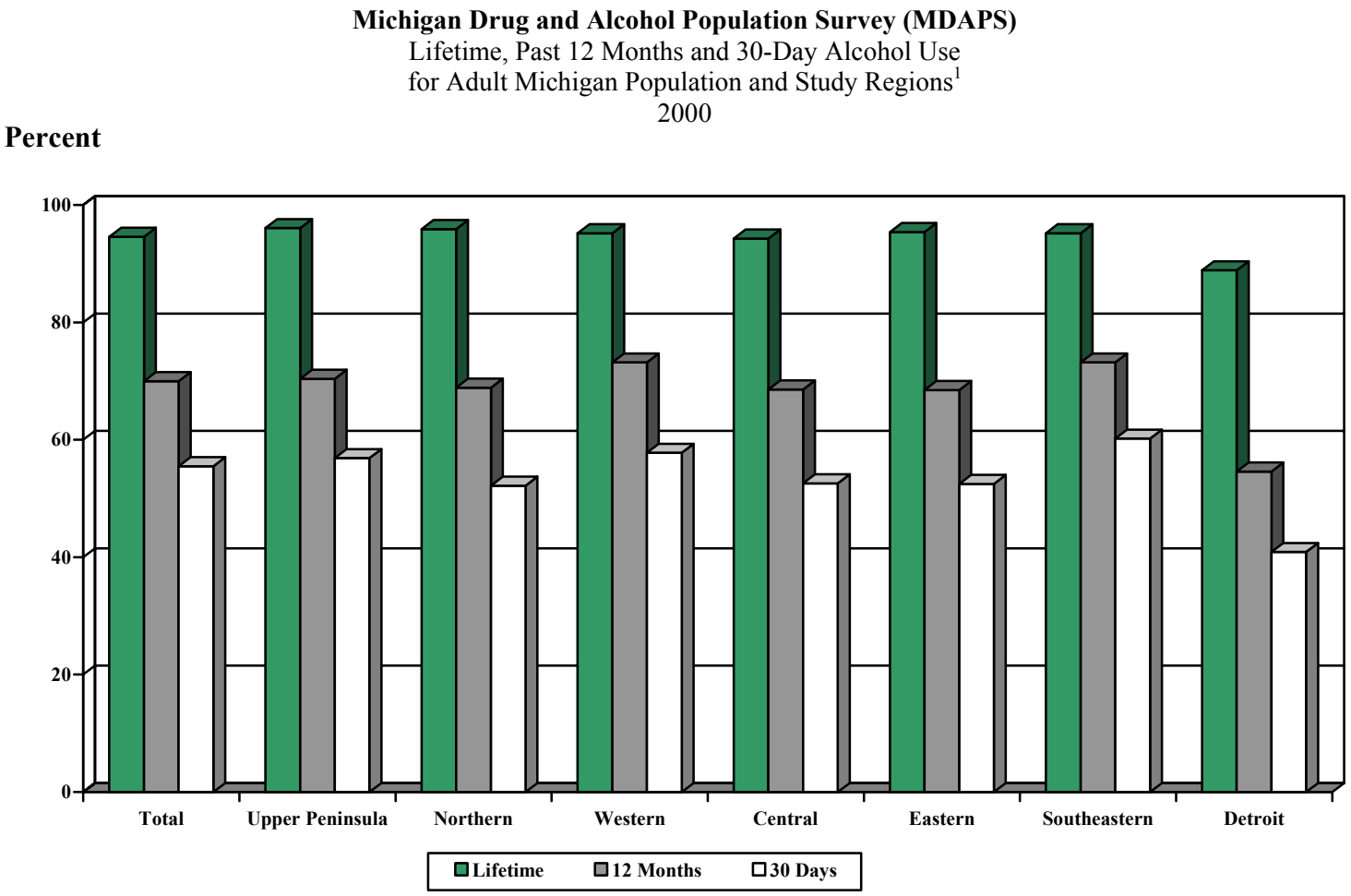
Treatment services were described to the respondent as "a stay in a hospital, treatment center, or halfway house...seeing a counselor or receiving medication such as methadone as an outpatient". The respondent was subsequently asked if they had ever received treatment for their alcohol or other drug use and, if yes, whether they had received treatment in the past 12 months. If the respondent stated that they had not received treatment in the past twelve months, they were asked if they thought they needed treatment. If the respondent stated that they thought they needed treatment, they were asked if they would have gone to treatment had it been available. The estimates presented in this table represent the specific services these respondents identified they would have sought in the past 12 months had they been available. Estimates of dependence and abuse are based on DSM-IV criteria.

Service category definitions are the following:
Hospital: Acute care is physician-directed/supervised medical care in an inpatient setting using licensed hospital beds.
Residential Detoxification: Medically supervised care provided in a sub-acute residential setting for the purpose of managing the effects of withdrawal from alcohol and/or other drugs.
Outpatient: Ambulatory, scheduled periodic therapeutic counseling provided in a clinical setting including intake assessments, individual, family, and group therapy.

The total Michigan population includes ages 18 years and over (n=7,403,307).
The Upper Peninsula includes populations residing in Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft Counties, ages 18 years and over (n=242,016).
Northern Michigan includes populations residing in Alcona, Alpena, Antrim, Arenac, Benzie, Charlevoix, Cheboygan, Clare, Crawford, Emmet, Gladwin, Grand Traverse, Iosco, Isabella, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Midland, Missaukee, Montmorency, Oceana, Ogemaw, Osceola, Oscoda, Otsego, Presque Isle, Roscommon, and Wexford Counties, ages 18 years and over (n=637,865).
Western Michigan includes populations residing in Allegan, Barry, Berrien, Branch, Cass, Ionia, Kalamazoo, Kent, Montcalm, Muskegon, Newaygo, Ottawa, St. Joseph, and Van Buren Counties, ages 18 and over (n=1,433,823).
Central Michigan includes populations residing in Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Jackson, Lenawee, and Shiawassee Counties, ages 18 years and over (n=745,754).
Eastern Michigan includes populations residing in Bay, Genesee, Huron, Lapeer, Saginaw, St. Clair, Sanilac, and Tuscola Counties, ages 18 years and over (n=838,554).
Southeastern Michigan includes populations residing in Livingston, Macomb, Monroe, Oakland, Washtenaw, and Wayne Counties, ages 18 years and over (n=2,812,731). Wayne County does not include the City of Detroit.
The City of Detroit includes populations residing in the City of Detroit, ages 18 years and over (n=692,564).

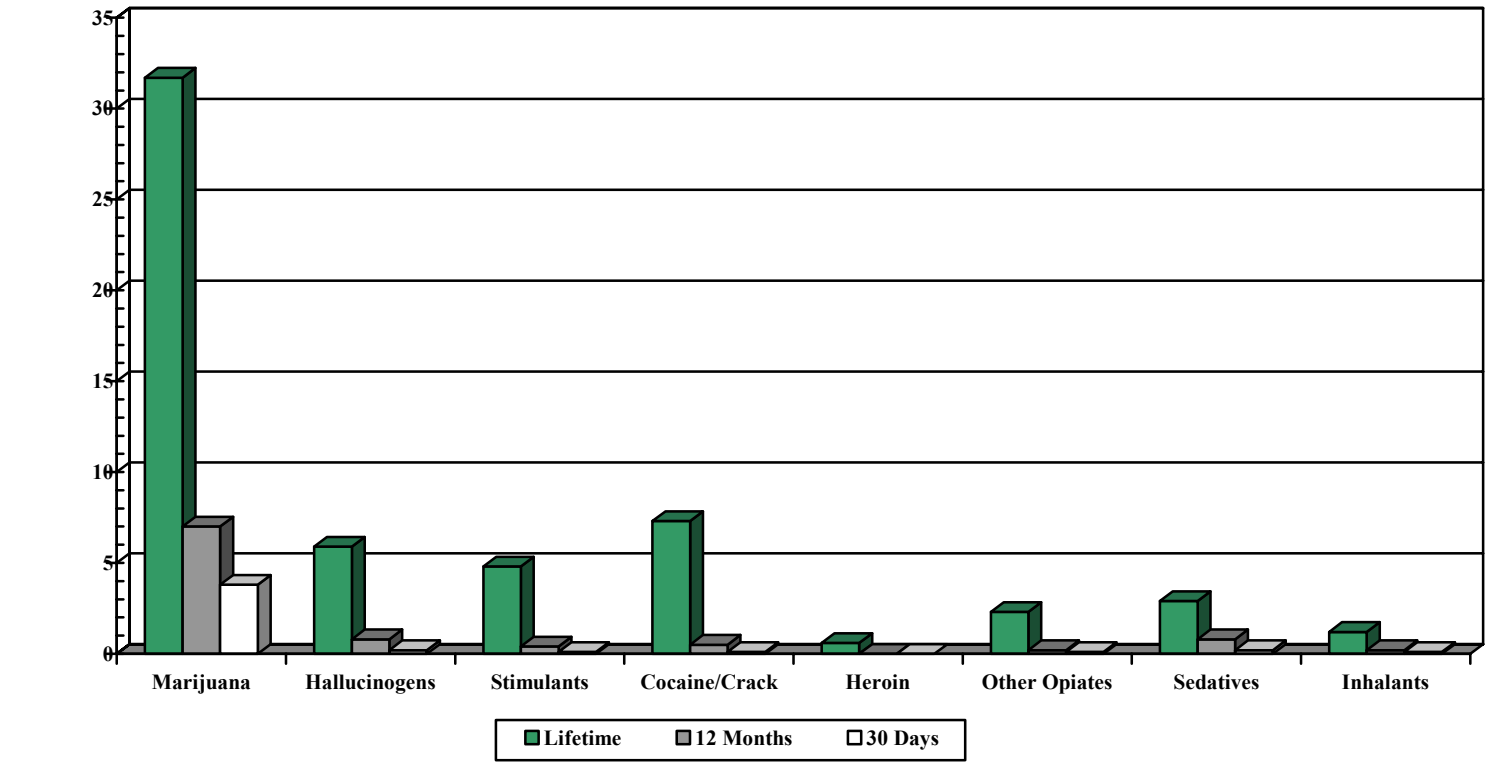
Note: Figures in shaded cells are based on responses from less than five subjects; therefore, caution is warranted regarding any trends, patterns, or conclusions involving these rates or population estimates.

Figure 1
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Lifetime, Past 12 Months and 30-Day Alcohol Use
for Adult Michigan Population and Study Regions[1]
2000



[1]The total Michigan population includes ages 18 years and over (n=7,403,307). See Table 1 or Figure 1 for study regions by county.

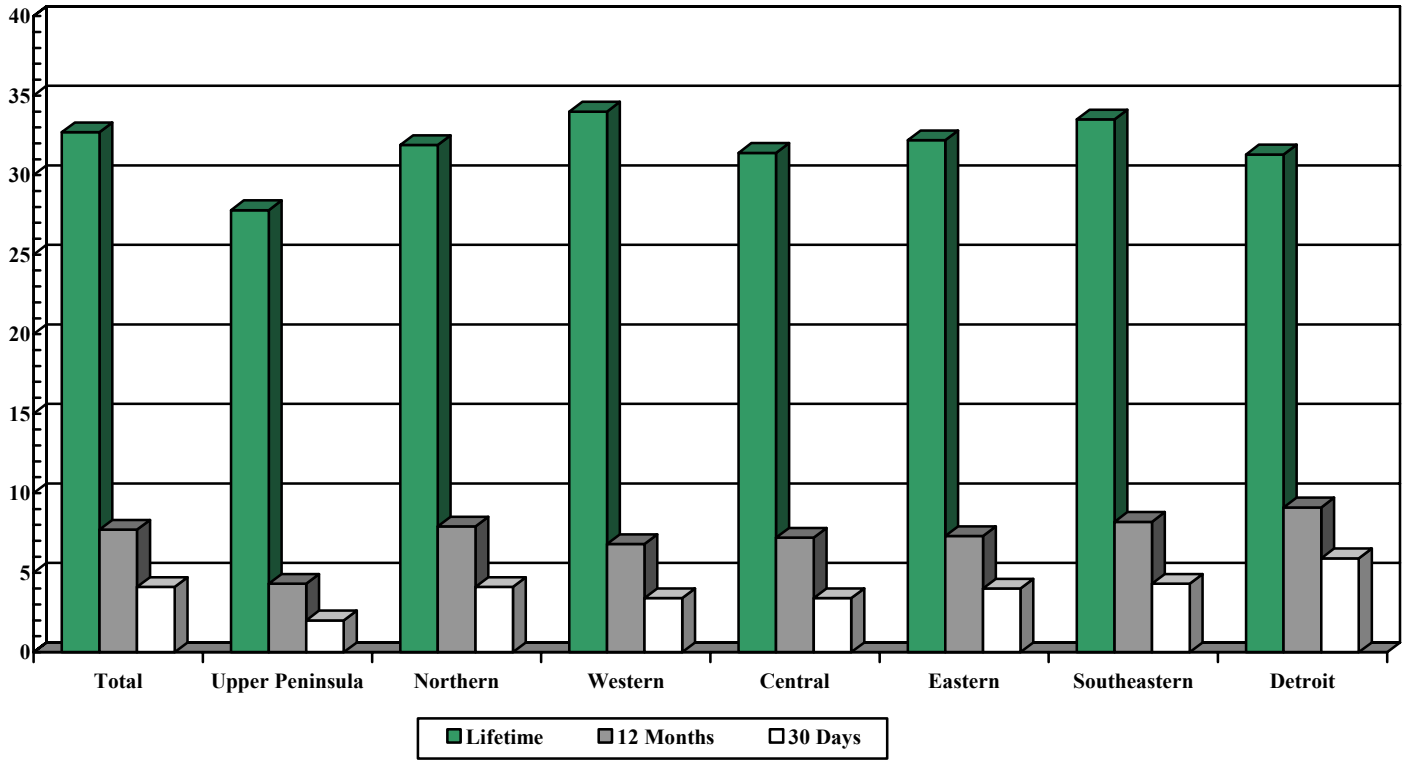
Figure 2
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Lifetime, 12 Months and 30-Day Illicit Drug Use by
Substance for the Adult Michigan Population[1]
2000



[1]Ages 18 years and over (n=7,403,307)

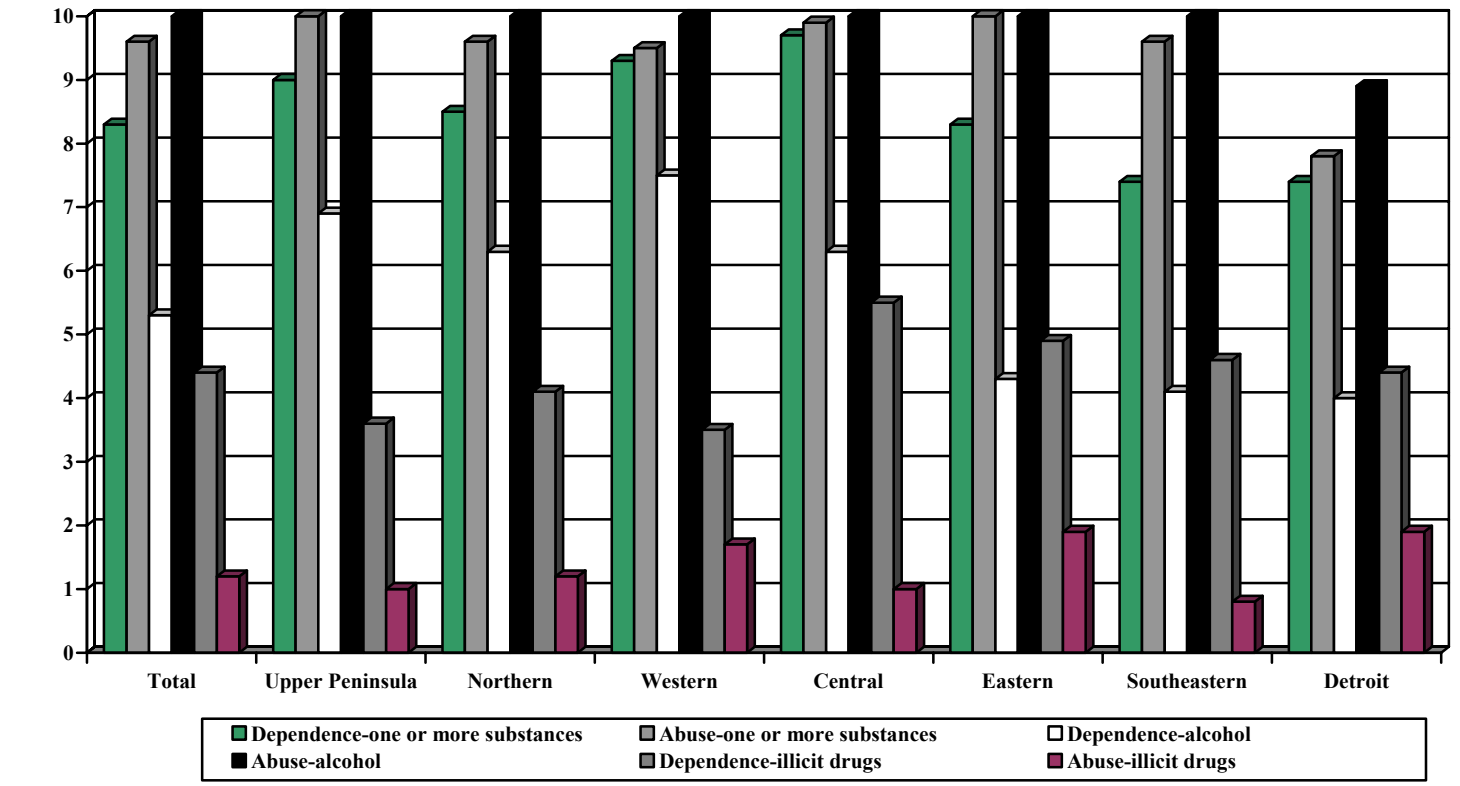
Figure 3
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Lifetime, Past 12 Months and 30-Day Use of Any Illicit Drug
for the Adult Michigan Population and Study Regions[1]
2000

Percent



[1]The total Michigan population includes ages 18 years and over (n=7,403,307). See Table 1 or Figure 1 for study regions by county.

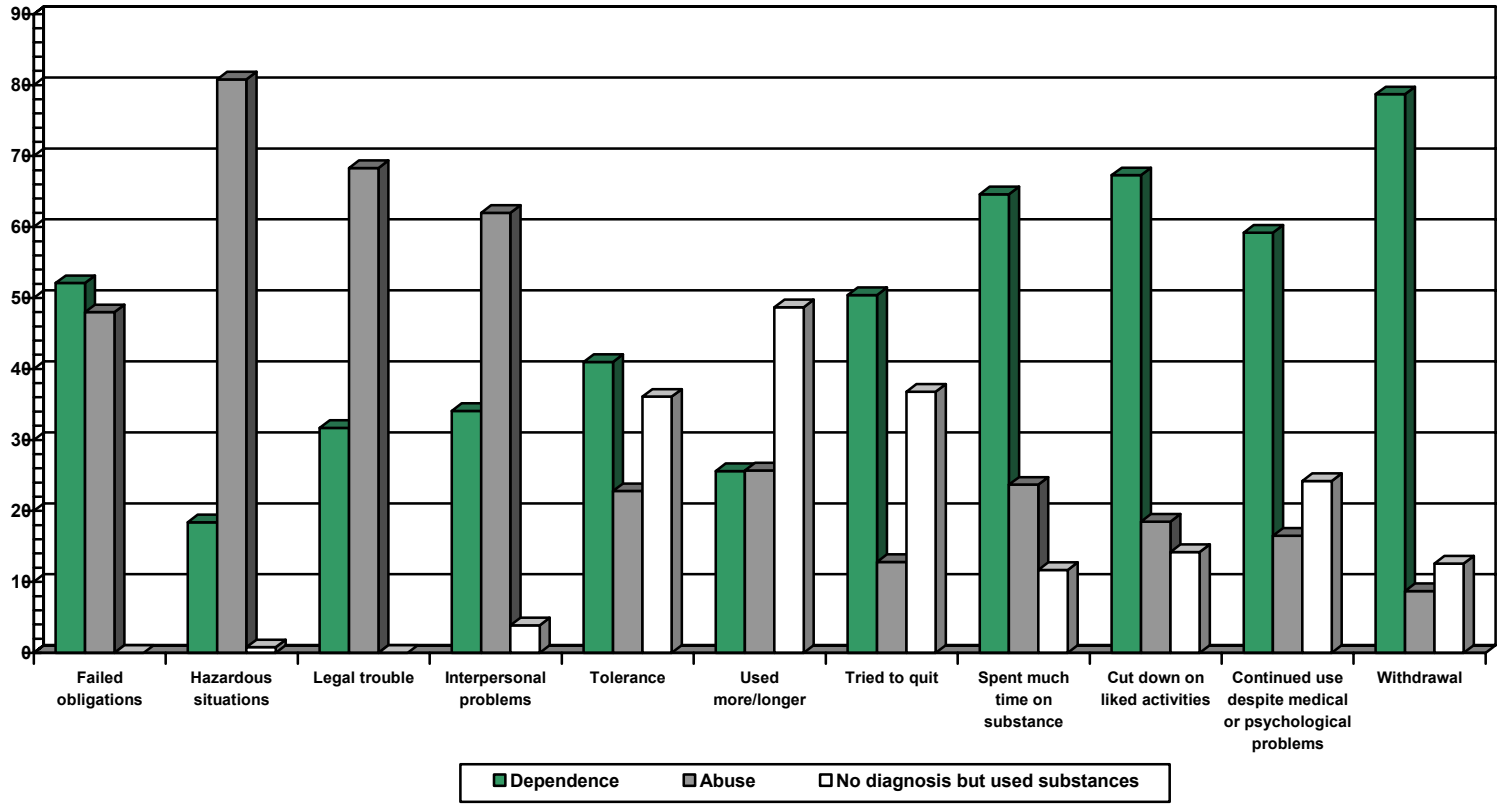
Figure 4
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Dependence and Abuse of One or More Substances, Alcohol and Illicit Drugs
for Adult Michigan Population and Study Regions[1]
2000



[1]The total Michigan population includes ages 18 years and over (n=7,403,307). See Table 1 or Figure 1 for study regions by county. Dependence-Indeterminant has been combined with dependence.

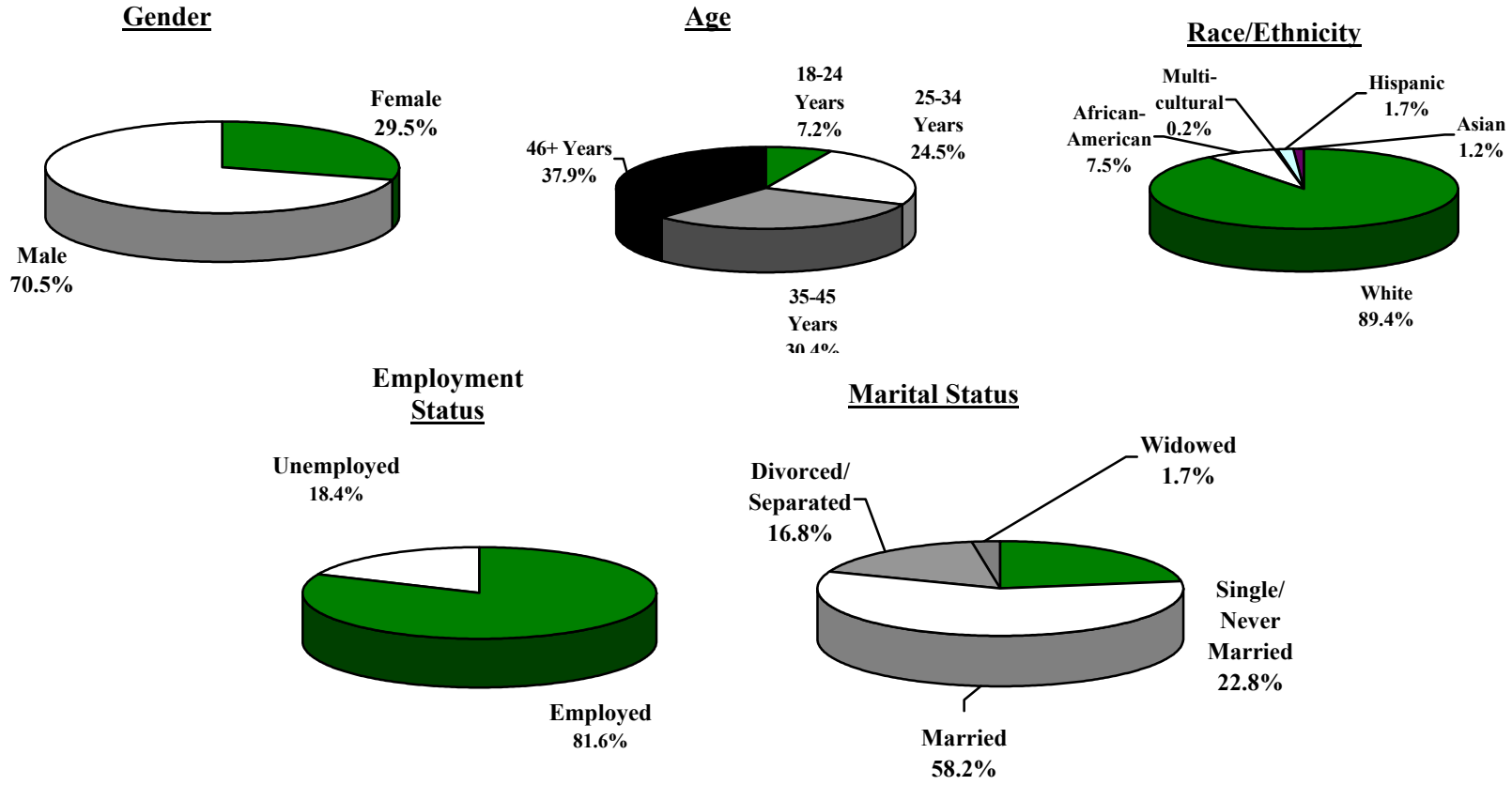
Figure 5
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
DSM-IV Symptoms Reported by Dependence and Abuse
for Adult Michigan Population[1]
2000

Percent



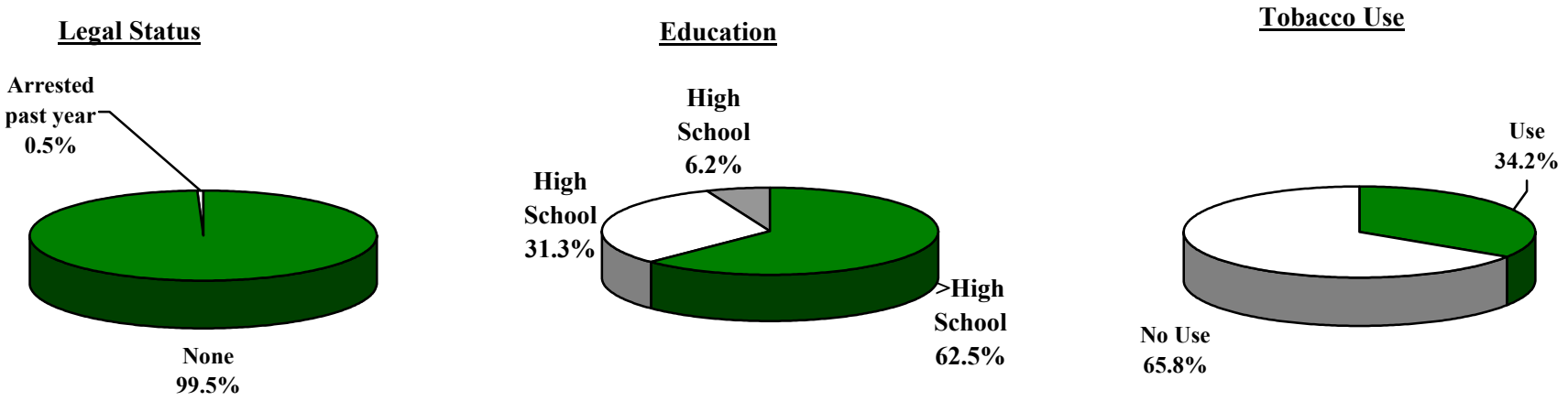
[1]The total Michigan population includes ages 18 years and over (n=7,403,307). Dependence-indeterminant has been combined with dependence.

Figure 6
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Selected Characteristics of Adult Population in Need of Substance Abuse Treatment, Any Substance (Abuse)[1]
2000



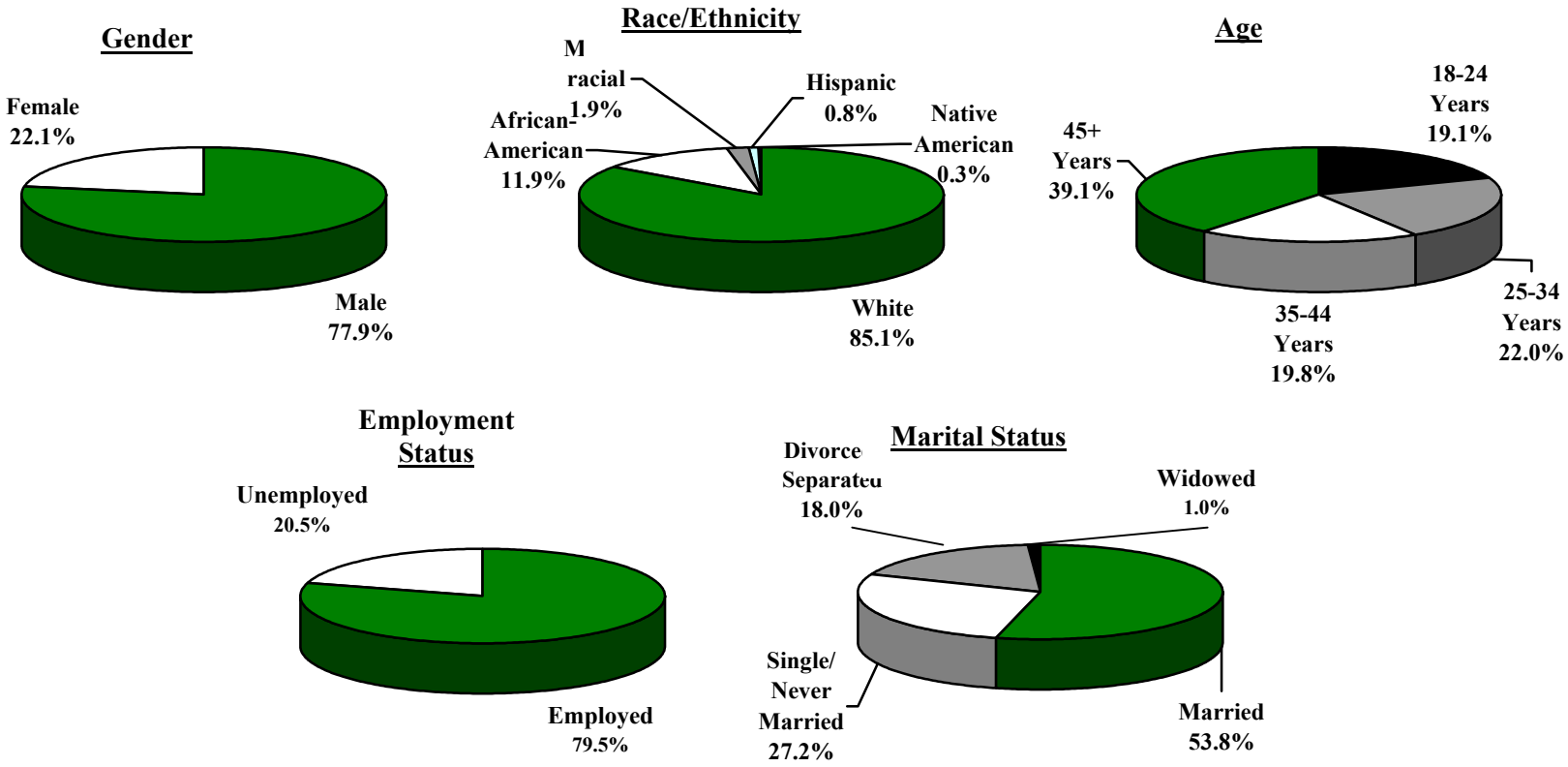
[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance abuse.

Figure 6 (cont'd)
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Selected Characteristics of Adult Population in Need of Substance Abuse Treatment (Abuse)[1]
2000



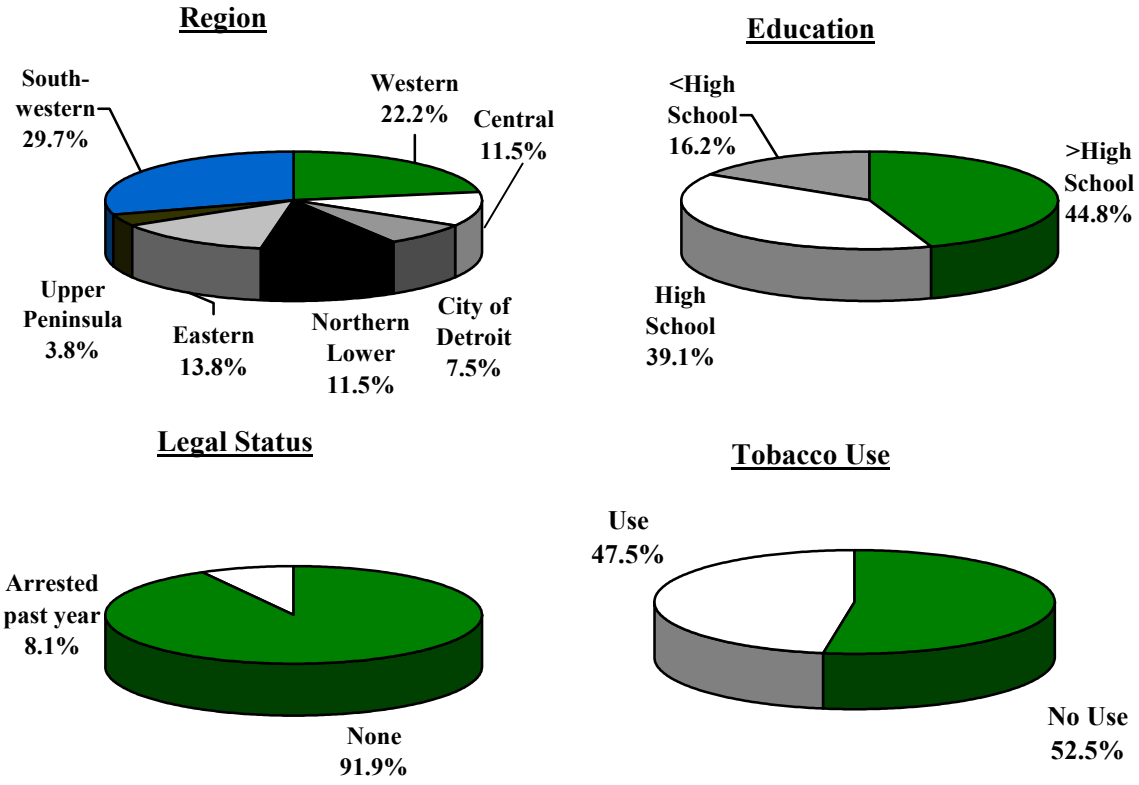
[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance abuse.

Figure 7
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Selected Characteristics of Adult Population in Need of Substance Abuse Treatment, Any Substance (Dependence)[1]
2000



[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance dependence.

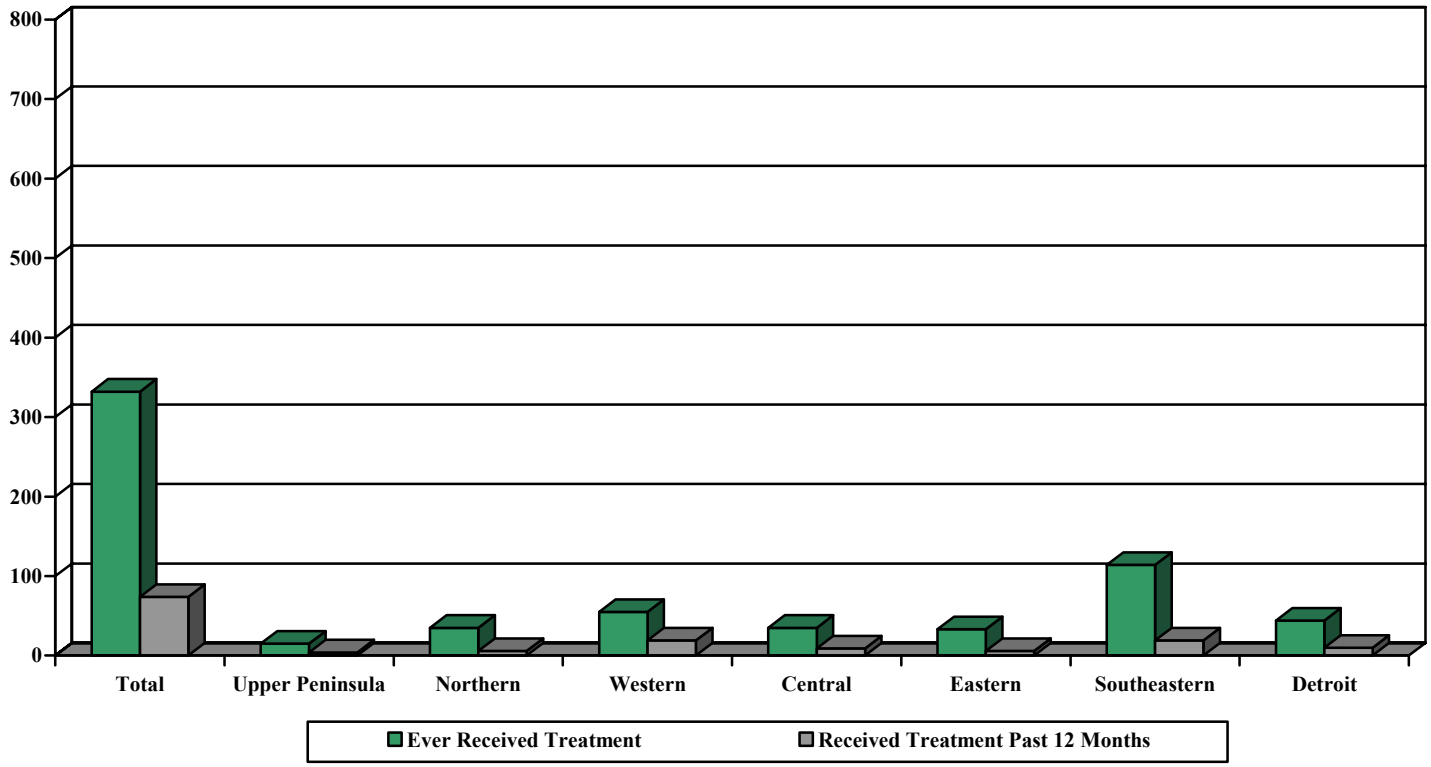
Figure 7 (cont'd)
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Selected Characteristics of Adult Population in Need of Substance Abuse Treatment, Any Substance (Dependence)[1]
2000



[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance abuse.

Figure 8
Michigan Department of Community Health
Mental Health and Substance Abuse Services
Michigan Drug and Alcohol Population Survey (MDAPS)
Population Ever Receiving Treatment and Received Treatment in Past 12 Months
for Adult Michigan Population and Study Regions[1]
2000

In thousands (rounded)



[1]The need for substance abuse treatment is operationalized as meeting DSM-IV criteria for lifetime substance dependence or abuse. The total Michigan population includes ages 18 years and over (n=7,403,307). See Table 1 or Figure 1 for study regions by county.